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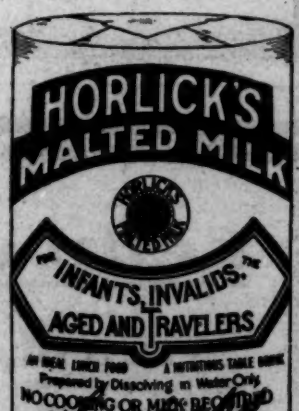

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Medical Times

A Monthly Journal of Medicine, Surgery, and the Collateral Sciences

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General Scientific

A PLAN FOR THE STANDARDIZATION OF ANTI-SYPHILITIC THERAPY.

Edward H. Marsh, M.D.,
Brooklyn, N. Y.

A few decades previous to the time when the Wassermann reaction was used as a criterion for the cure of syphilis, the older syphilologists, chief of whom was Fournier, laid down certain definite rules regarding the duration of the treatment in a case of syphilis. In the light of our present knowledge, or perhaps we should say ignorance, it has been shown in many instances that such treatment was insufficient. Many cases of cerebrospinal syphilis were given what was deemed the proper amount of treatment in years gone by. In recent years the discovery of the complement fixation test for syphilis and the subsequent discovery of the treatment of the disease with arsenic in organic combination have revolutionized our ideas regarding the amount of treatment necessary to cure any given cases.

It is the opinion of the writer that in some respects the use of the Wassermann reaction has done a vast amount of harm to persons suffering with syphilis. Too much attention is paid by the medical profession at large to the value of a negative test. Cases have been discharged on the strength of one negative test. Likewise the addition of salvarsan to our therapeutic armamentarium has in some ways been harmful. Ehrlich's first idea of a therapia sterilisans magna has long since been disproven, but many still labor under the impression that the administration of one dose of salvarsan enhances the patient's chances of recovery to an enormous extent.

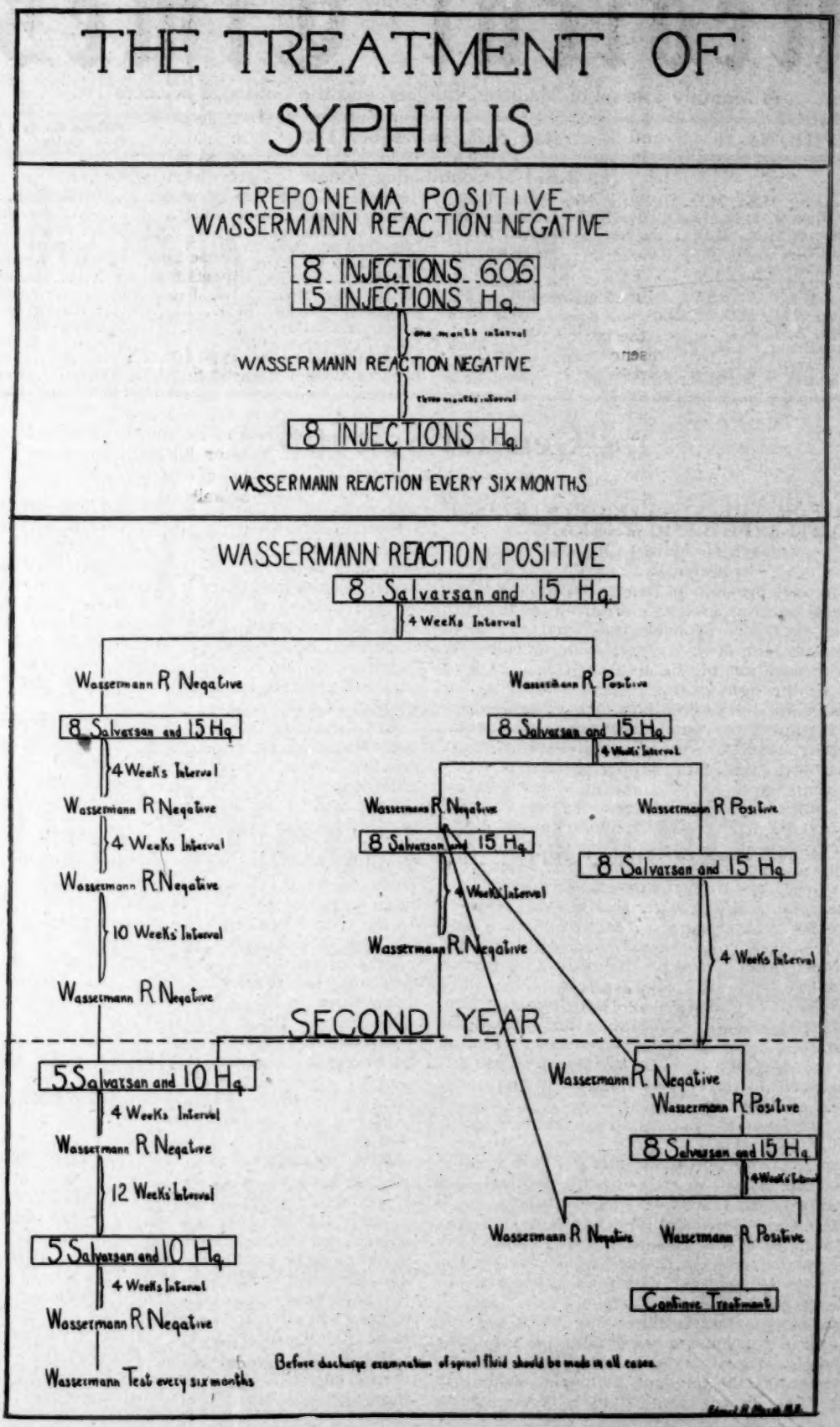
The writer believes that a medical practitioner should be thoroughly impressed with the fact that syphilis to be cured demands a long-continued period of treatment with continued observation over a long period of time following cessation of treatment. Even then, in view of the recent researches of Warthin and others, it may be that the disease is not cured but merely arrested.

It is an easy matter to determine when to commence treatment in any case of syphilis; it should be done as soon as the diagnosis is made. But when to stop treatment is the question which is puzzling to everyone. The clinical manifestations of the disease will clear up promptly under modern methods of treatment, and then the practitioner faces the question—how long must treatment be continued? It is obviously impossible to lay down any hard and fast rules. In the first place it must be remembered that we are treating an indivdual suffering with the disease and not treating the disease. Therefore variations must be necessary to fit the various individuals, but there should be some guiding principles in order that the greatest benefit may accrue to the greatest number of people.

For the above reasons the writer has attempted by means of the accompanying chart to outline the treatment which should be administered to a patient suffering with syphilis. It is not expected that this outline will be followed in every individual case; it is merely suggestive.

The chart is divided into two portions—the first showing the treatment to be administered to those cases where the disease is seen at an early period, namely, in the presence of primary lesions previous to the time when the Wassermann reaction becomes positive. Such cases should receive an intensive course of treatment, using both arsphenamine and mercury, the arsphenamine to be administered at from three to five-day intervals, the mercury to be administered either by daily injections of a soluble preparation or semi-weekly to weekly injections of an insoluble preparation. Treated in this manner it may be expected that nearly all cases will not only clear up promptly clinically but will remain serologically negative, and if followed over a period of years will never have a positive Wassermann reaction unless re-infection occurs. In those cases where the Wassermann reaction has already become positive, treatment must be carried on for a far longer period of time. In the chart a minimum period of two years is indicated during which fifty injections of arsphenamine are to be given, and mercury administered over a total period of fifty weeks. This would be given to those cases in which the Wassermann reaction became negative following the first course of treatment. If the Wassermann reaction remained positive following the first course of treatment the number of arsphenamine injections would be increased by a minimum of eight, and the amount of mercury increased

THE TREATMENT OF SYPHILIS



by administration over a period of fifteen weeks longer. There are doubtless cases in which, regardless of the amount of arsphenamine and the amount of mercury administered, the Wassermann reaction will remain positive. In such cases it may be necessary to cease treatment entirely except at long intervals when short courses may be given. Such cases should, however, be under continuous observation for the remainder of their lives in order that treatment may be re-instituted at the earliest sign if active syphilitic manifestations again appear. The dose of arsphenamine should be approximately one decigram for each twenty-five pounds body weight; if neoarsphenamine is used the dose should be 50% more. Mercury should be administered to the point of tolerance. In the chart there is no mention made of potassium iodid. The writer does not believe that potassium iodid per se influences the cure of syphilis. It is of great value in the presence of certain indications, such as gummatous formations, increased blood pressure, persistent headaches, etc.

Before discharging any case, examination should be made of the spinal fluid, and if the result is positive treatment must be continued even though the blood Wassermann is negative.

In conclusion, the following facts should be emphasized:

1—the earlier treatment is instituted in the course of the disease the better the chances of recovery;

2—most cases of syphilis are not treated over a sufficiently long period of time;

3—the value of one negative Wassermann reaction is nil;

4—at the first visit of the patient the necessity for long-continued treatment should be clearly brought to his attention, otherwise it is impossible to secure his coöperation at a later period;

5—to be effective arsphenamine should be administered at frequent intervals, and mercury should be administered to the point of tolerance.

448 Ninth street.

SYPHILIS AND THE HOSPITAL.

ALEC N. THOMSON, M.D.,

DIRECTOR, MEDICAL DEPARTMENT, THE AMERICAN SOCIAL HYGIENE ASSOCIATION,

New York

As a general statement it may be said that the hospitals throughout the United States do not knowingly admit patients who suffer from syphilis. It is reasonable to expect general hospitals to accept both medical and surgical cases. All cases can generally be classified as communicable and non-communicable, and, therefore, general hospitals should not evade the moral or medical duty of accepting a sick person, whatever the diagnosis may be.

Certain highly communicable diseases, or diseases still so classed, are cared for, under our present scheme of hospital management, in special institutions known as contagious disease hospitals. Thus, a hospital in a large city has an opportunity to transfer the *exanthemata*. In smaller communities the general hospital becomes less specialized, and is perforce required to maintain facilities for the highly or dangerously communicable diseases as well as for the general medical and surgical cases.

The crux of the situation seems to be a determination of the relative degree of communicability. Syphilis is not markedly different in degree of communicability from pneumonia and typhoid. Recently The American Social Hygiene Association asked a number of physicians throughout the United States some pertinent questions with regard to the policy of hospitals in dealing with the problem of providing hospital care for the syphilitic. And the consensus of the opinion expressed by leading authorities on the subject confirm the following beliefs.

All syphilis patients do not need to be hospitalized. However, great progress would be made in the control of syphilis if all cases in the infectious stage could be hospitalized for a long enough period of time for them to receive an intensive course of treatment. This would call for a week or two of hospital care. Cases that require hospital care are the relatively rare cases of malignant syphilis: the patients that require intraspinal treatment or diagnostic spinal puncture; the patients whose physical condition or the gravity of whose lesions requires constant observation and attention; and the patients who are suffering from syphilis of special organs, either as the primary or complicating factor in the case.

Every medical man, whether he be a specialist or general practitioner, peculiarly interested in surgery or general medicine, finds in the course of his daily work, or should find if he is on his job, some type of syphilis patient that is in need of hospital care.

Properly and naturally the hospital superintendent should ask whether syphilis is dangerous from the hospital viewpoint. The answer is that syphilis is not dangerous from the hospital viewpoint, because the simplest precautions against infection are all that is required. Cases of cross infection are rarely if ever seen. When encountered, gross negligence, ignorance of what was the matter with the patient, or some other preventable factor is responsible, and not the disease *per se*. It can be laid down as a principle, therefore, that the hospital need but establish ordinary "typhoid precautions" in order to protect itself, its inmates, and its staff. Furthermore, there appears to be a rather universal agreement that one dose of arsphenamine, or, at the most, two doses, will render a patient non-infectious. The simplest precautions during the first twenty-four to forty-eight hours amply protect all concerned, if prompt, efficient treatment is instituted. All in all one might say that syphilis is much less dangerous from the hospital standpoint than typhoid or pneumonia.

Shall the hospital demand a routine Wassermann upon all admissions?

It is confidently believed that the day is coming when no routine physical examination for admission to an institution will be complete without a Wassermann blood test, and that this test will take a place of equal importance with the routine urine examination. Syphilis is ubiquitous. Many a case of delayed healing is due to syphilis. Syphilis can stimulate many acute inflammatory diseases. The ambiguity of the Wassermann reaction may be controlled by careful technique, careful clinical observation, and, if need be, by careful therapeutic tests.

Parenthetically, it is not out of place to emphasize here the desirability of the periodic physical examination applied to the well; and a periodic physical examination to be complete should include not only a urine but also a Wassermann blood test. Periodic physical examination, when taken up by the medical profession at large, will probably do more for the benefit of mankind than any other single line of medical activity. We assume a careful clinical examination, supplemented by adequate laboratory aid, to be the *sine qua non* of a routine examination. Slipshod work is probably worse than no work at all in health production.

Are beds necessary for the best treatment in many

cases of syphilis, and, if so, how much responsibility has the hospital for the provision of beds?

It does not seem necessary for the average hospital to allocate beds to a syphilis service. Syphilis will be found in the surgical wards, in the medical wards, and in the special wards if there be any. Syphilis will be found in the free ward, the pay ward, and the highest priced private room. The question to be determined is not how many beds the hospital should allocate, but what type of patient should be provided for. Beds are not necessary for the best treatment in most cases of syphilis. But they are necessary to prevent the spread of infection in contagious cases, to anticipate severe reaction following the administration of treatment, and to care for patients whose clinical condition is serious.

Hospitals should admit syphilis in all stages if the condition of the patient requires it, should look for syphilis in all patients admitted for any cause whatsoever, and should treat these patients without discrimination, if they are to be recognized as a force in the progressive movement for public health.

105 West 40th street.

THE INTRARECTAL ADMINISTRATION OF SALVARSAN,

CARL WILSON, M.D.,

Ranger, Texas

The intrarectal administration of salvarsan presents so many excellent possibilities that a technic which has worked with great satisfaction to me is presented herewith. The reason why the intrarectal method is of value is that the pain caused by the introduction of the needle is eliminated, there is no after-trouble, no embarrassment of the cardio-vascular apparatus, and no chills or hyperpyrexia, no upsetting of the digestive system and, in short, no reaction of any kind.

Preparation of Patient

It is very essential if proper results are to be obtained that the patient be prepared as for the intravenous injection. It is believed that with patients so prepared one gets at least 80 per cent. of the clinical results from the intrarectal administration, giving the intravenous administration 100 per cent.

The secret of obtaining the best results by this method is to have the intestinal tract absolutely clean. The lacteals and lymphatics should be in a practical condition of rest from absorption of foods in process of assimilation. It is especially essential that the lower bowel be entirely clean and in a condition of rest, so that absorption of the salvarsan solution may go on to the fullest extent. It is also necessary that the gastrointestinal tract be free from the absorbed fatty acids, in order that the salvarsan solution may be taken up unchanged. To this end I employ the same technic for twenty-four hours before administration that I would in preparation for a laparotomy. In addition, a large dose of magnesium sulphate is administered twelve hours before administration, and I have the patient fast from that time until after the administration of the salvarsan. A smaller dose of magnesium sulphate five hours before the injection aids in abstracting the fluid and thus assists in the more rapid absorption of the solution. If desired, enemas can be given until the return is perfectly clear. Particular care should be exercised so that there should be no trauma of the lower bowel; the presenc of an abrasion will lad to pain upon the introduction of the salvarsan solution. Morphin and atropin are not necessary to facilitate continence and absorption, but they are not contraindicated.

Technic of Preparation of Salvarsan Solution for Intrarectal Administration

The drug is dissolved in a small quantity of sterile, distilled water. To obtain the most perfect solutuion, sterile, distilled water is essential, though sterility is not necessary for intrarectal administration.

The solution is alkalinized with 15 per cent. sodium hydroxide solution. It is then diluted to 50 cubic centimeters per decigram of the drug, *i. e.*, for six-tenths gram of salvarsan, 300 cubic centimeters of solution is injected.

Position of the Patient While Taking the Injection

Stout patients take and retain the solution best in Sims' position, remaining on the table twenty minutes after the injection. The average patient takes and retains the solution best in the ventral recumbent position and may be permitted to arise from the table immediately after the injection.

Technic of Injection

The patient is placed upon the table in the position best suited. The container, preferably the two-way apparatus, is adjusted to the height necessary to obtain sufficient gravity pressure to force the solution through a small rubber tube, equipped with long rectal point, into the rectum. The long point is essential, because it is often necessary to manipulate the point in and out to initiate the flow and were the short point used, some of the solution would necessarily be spilled, thus wasting a part of the solutuion and disgusting the patient. There is no necessity for spilling a single drop of the medicine, throughout the procedure and, by using the two-way apparatus, every drop of the solution may be injected. When all the solutiuon in the container has passed into the rectum, the two-way stop cock is turned to permit the solution from the other container, which contains distilled water, to flush the remainder of the salvarsan solution, which is in the long tube, into the rectum. It is a good idea to permit 50 cubic centimeters additional, of distilled water, to flow into the rectum, from the second container.

Conclusion

These remarks are made from data from my own experience in treating a series of cases. The results have been very gratifying. Unfortunately, it is quite impossible to follow most cases of syphilis as long as we should like. However, in a good many cases, it has been my good fortune to have them under observation for a comparatively long period and the results obtained by intrarectal administration of salvarsan have been satisfactory. I do not advocate intrarectal medication for all cases of syphilis. For, the strong, robust, recent, male syphilitic, who is in a hurry for a cure, it is best to adhere to the intravenous method. The intrarectal method is the ideal way to administer salvarsan to the aged, the neurasthenic, to women and children and to all cases having cardiac ailments of any type, whatsoever; for extremely advanced cases, and for the fastidious, who do not want their arms disfigured, even temporarily, by the insertion of a needle.

A combination of the two methods is highly satisfactory in most cases, especially where there is any resultant cicatrization of the prominent veins used, giving the first injection, intravenously, the second, intrarectally, etc.

It is well to begin mercurial medication, as soon as the Wassermann shall have been negative a second time after the first negative Wassermann, a ten-day period elapsing between the two. The cyanide of mercury (1/12 gr.) from the ampoule, given intravenously, is the most satisfactory method of giving same and may be

given in this quantity, weekly, until prodromes of ptyalism are evident.

Usually, twelve intrarectal injections of six-tenths gram salvarsan, at five-day intervals, will reduce a four plus Wassermann to a negative.

POLITZERIZATION AND CATHETERIZATION.

HAROLD HAYS, M.D., F.A.C.S.,
New York

The aurist has had to depend on one of the two above methods in the treatment of deafness. Both of them have their advantages in sub-acute cases where the restoration of hearing depends upon bringing about the normal balance in the middle ear. However, we do not know of anything that is more abused than the use of catheter and the Politzer bag. Most aurists are so used to using didactic methods in treatment, and have so little knowledge of the actual causes of deafness that they continue using antiquated methods, which in many instances are of no use. The blame should not be placed upon them. The scientific progress of the treatment of chronic ear diseases is far from satisfactory, for a number of reasons, chief among which is that it is difficult to make any pathological examination of the tissues, in such a way as to determine the cause of the condition.

In the treatment of ear diseases by the Politzer bag and the Eustachian catheter, one must remember that the Eustachian tubes of children are more widely open than those of adults, and that whereas one may readily pass a catheter in adults, it is almost impossible to do so in children. However, on account of the open Eustachian tube in the child, one gets very gratifying results by using the Politzer bag. A few mild inflations, performed in this way, will often prevent a child from becoming deaf later on in life. Under no circumstances should such massage of the drum be attempted without placing the sounding tube in the examiner's ear, connecting his ear with that of the patient so that he is able to tell at all times the impression that he is making on the drum.

In catheterizing the Eustanchian tube of adults it is surprising to find that in many instances it is difficult to place the catheter within the tubal orifice without the assistance of some electrical device, such as the pharyngoscope or the naso-pharyngoscope, in the nasopharynx. When the catheter is once in place, one should be sure that it is in the correct position, for if it is in the incorrect position, it may do a great deal of harm. To apply air pressure to the end of the catheter and attempt to force air through a tube that is congested and swollen or permanently constructed, will cause irreparable harm. In any event no massage through a catheter should be attempted, by any means other than the forcing of air from a small rubber bag, such as the Dench bag. We have seen aucrists attach the tip of a compressed air apparatus to the catheter and attempt to force air into the middle ear, sometimes using as much as fifty pounds pressure. Such practice is bound to give dire results; for if the tube is open, the forcible pressure of air is liable to relax the drum; and if it is closed, either no air enters the cavity at all or else does so through a constricted opening, which means that there is a forcible expansion of the drum with relaxation of the ligaments.

WHAT THE GROCERY YEAST CAKE WILL DO IF YOU EAT IT OFTEN.

LEONARD KEENE HIRSHBERG, A.B., M.A., M.D.
New York

Your mouth is probably the most important gateway of life. It has only one real competitor, to wit, your nose, through which comes the breath of oxygen and fresh air that help you to burn up the raw materials, which penetrate your stomach and tissues, your flesh and blood.

Through the vestibule and entrance hall of your masticating lips and teeth, jaws and cheeks, must pass the rations, and drink necessary for the maintenance of growth and repair as well as the sustenance required for energy, strength, health, productiveness, earning power, vitality, and combustion.

True enough, useless, harmful, and sometimes remedial matter, such as wood, dirt, germs, poisons, drugs and chemicals also enter this portal cavity. The essential purpose, however, of the mouth, the alimentary canal, and its connections, are furnished a pathway and clearing house for helpful foods.

The pabulum you call tablestuff, meats and drinks, are demanded by your fabric to build up the daily wear and tear of the daily grind, to give heat and power and muscular work, to grow new skin, bone and brawn, just as an injured frog will grow a new limb.

Be all this as it may, and as it is taught in old medical books, yet you may eat a lot of meat and eggs and beans in plenty, and live a lingering, unproductive, chronic grumbling kind of an earthly existence.

Why? Simply by virtue of the fact discovered by numerous scientific physicans, notably Prof. McCollum, of Johns Hopkins; Dr. Levine, of the Rockefeller Hospital; Prof. Casimer Funk, and many others, that fats, sugars, oils, starches, meats, fish and eggs may be fed to you in abundance, but you will be sickly, full of spleen and bitterness, chronic complaints, and only average earning power ready to succumb to the first epidemic or contagion or fever which assails you.

In other words, eating luxuriously and like a glutton or epicure, may not always save you from a form or slow insidious starvation. You may be surrounded with all the viands, the wealth of a Monte Cristo, nevertheless have beri-beri, scurvy, rickets, pellagra, acne, boils, pimples, carbuncles, blackheads, diabetes, joint pains which you love to call "rheumatism."

In fine, these various ailments, complaints and maladies and defects in the health textiles of mankind, no less than the soft bones, stunted growths, pallow, anemia and susceptibility to some passing infection, have been discovered and are now well-nigh universally recognized and conceded by all skillful and up-to-date physicians to be due to something lacking in your food and nourishment, even though you think you are eating everything and in goodly amounts.

Briefly, the fact is that when you do not eat your fill three times a day of some fresh fish, rich in "water soluble B" and "fat soluble A," foodstuffs better known as vitamines, you may feed-up like a Falstaff or a Three-Headed Giant, yet be a grouch and a grumbler, ugly by nature and appearance, and a weakling in as far as your health and vitality are concerned.

Happily there is always at hand a simple, cheap, unpatented, plain, every-day-and-Sunday-go-to-meeting food, the yeast cake to be had at any grocery store, which contains in its simple make-up, a liberal, ever-growing supply of vitamines.

Fresh yeast cakes, to be had in compressed squares at the nearest grocer, is certainly an ideal food, if eaten freely, flavored or not, three times a day before or with

your meals. In its composition are to be found, mineral fertilizers for human use, vitamines water soluble B. form, sugars, starches and egg-white like stuff.

The distempers and scourges of the human anatomy, many of which pounce upon those whose daily fare and diet, no matter how rich, lack vitamines, evade and pass by most of those who eat a lot of bread with yeast and an additional cake of compressed yeast with each meal.

Obviously, if yeast cakes are such powerful aids and abettors of health, taken as a remedy for the plagues of complexion blemishes, as a superior treatment for the diseases of malnutrition, marasmus, blotches, hives, blackheads, pimples, furuncles or boils, carbuncles or anthrax, undergrowth, slow teething, rickets, scurvy, bow-legs, knockknees, pigeon toes, pellagra, arthritis from obesity, under-nourishments, anemia, chlorosis, yeast cakes in doses of a cake a day flavored with fruit juices or milk have been found to be in some instances almost a magic, specific treatment.

Indeed official reports sent to medical societies scientific associations, and other critical and governmental organizations by such conservative physicans as Philip B. Hawk, of Jefferson Medical College; I. R. Klein, of New York; M. Levine, of The Rockefeller Hospital and Institute for Medical Research, and others, here and abroad, prove most conclusively that yeast is not only harmless, but really almost as essential a food as bread itself, of which it is a more important part than was ever supposed until six or seven years ago.

Experiments carried out in the research laboratories of the Roosevelt Hospital, New York; The Rockefeller Institute for Medical Research, New York; the Philadelphia Hospital, Philadelphia; Fordham Hospital, New York, and in private laboratories, agree with the *Journal* of The American Medical Association, October 13, 1917, namely, that yeast survives a good while in man's stomach and multiplies and enters the intestines alive and helpful. The American medical profession has really lead the rest of the world of scientific doctors, in its advocacy of

Three cakes of yeast a day
Drives dread disease away.

French and English physicians are now following suit. Their foremost medical and research institutions, pattern themselves after the American, counsel and advise that more yeast be used in bread and yeast cakes be eaten with every meal. Yeast, like other herbs, fruits, moulds, or vegetation, makes carbon, potash, phosphorus, oxygen, and elements found also in growing things which thrive, grow and reproduce their kind. A yeast cake contains thousands of these fungi-plants. As you chew and swallow it, you really plant a fine herb in your digestive apparatus. This helps to absorb and eat the excess waste you do not need, at the same time yielding unto Caesar that which is Caesar's, to wit, health, vitamines, resistance to disease and vitality.

It must be plain from the facts that fresh compressed yeast should be kept on ice or very near an icy temperature to avoid it eating isself up. Never keep more than forty-eight hours' supply, or enough for six meals. Then your grover will be responsible for the tiny plant's freshness.

While it is perhaps the rule to eat on the average a cake of yeast with each and every meal, children are often better off with a smaller section of a cake, say a half. Those who are soon improved of their face blemishes, of their nutritional disorders, of their constipation, swollen or painful joints, or simlar abominations due to lack of vitamine foods, may toward the stage of their convalescence, if they prefer, administer to themselves only two cakes a day with which every two meals are most convenient.

Oddly enough, some persons who like onions and garlic, yet must continually explain and apologize for the foul odor of their breath, have found that a cake of yeast eaten at the time, will occasionally mitigate the odor. Indeed, foul breath from diseased tonsils, poorly looked after teeth, constipation, adenoids, gluttony, faulty died, radishes, cheese, too much meat, decayed fowl and nasal troubls are usually improved when the victim puts hinuself upon a yeast cake diet three times a day.

One of the finest adjuncts to personal hygiene and an outdoor life has proved itself to be compressed yeast. Women who abandon cosmetics and the artifices of beauty parlors and drug shops for the internal and external use of fresh yeast, have found when this is combined with athletic sports, swimming, horseback riding, tennis, golf, motor driving, canoeing, and dancing, that their beauty begins to bloom more wonderfully than it did in their teens. Yeast is not only valuable as internal pabulum. In fresh condition it is also an excellent application directly as a paste and a lotion for the removal of acne pustules, pimples, greasy skin, boils, furuncles, or various other felonies and misdemeanors of skin bacteria.

Spread upon a bit of sterilized gauze about the face and over the neck at bedtime, it may be easily removed next morning by means of cold water and castile soap. A silk sponge or rubber one may then be employed to douche away the remains of the yeast paste, of course, with a plentiful use of pure, cold water.

Medical men of an orthodox, conservative type, are well aware that there is nothing that is more doubtful than the belief that some one thing either a food or a medicine is able to play the part of an Aladdin's lamp, that is to say, there is seldom anything that is a specific for more than one sort of pathological condition.

The exceptions to this general rule are few. Certain foods, however, are among the rare exceptions, and yeast fortunately seems to be the foremost of these near-panaceas. No medicine or anti-toxin or serum appears to be numbered among them.

The beneficial influence of yeast and its exceedingly valuable value as a "prophylactic" or preventive of a number of things really makes it more precious than cabbages and kings as Alice in Wonderland might say.

55th St. and 7th Ave.

CRAMPS

W. F. McNutt, Sr., M.D.,
Byron Hot Springs, Calif.

Industrial—writer's cramp:—piano player's cramp; violin player's cramp; telegraphist's cramp; typist's cramp; dancer's cramp.

Diathetic—rheumatic cramps; gout cramps; fatigue cramps; swimmer's cramps.

Traumatic cramps:

Definition: cramps might well be defined as a neurosis, characterized by spasms of pain in certain muscles.

Etiology, industrial cramps are the result of the constant use of a certain group of muscles—the exhaustion or wearing out of the brain cells, which govern the group. Diathetic cramps may be the forerunner of rheumatism or gout, or the result of fatigue or of long continued positions, or anemia, or sudden cold; when there is a rheumatic or gouty diathesis.

Traumatic cramps result from injuries to the bones or nerves, especially cramps of the legs and feet from injuries to the pelvis or lower part of the spine.

Symptoms.—Often there is a sense of soreness or stiffness preceding the painful spasm, occasionally the subject of cramps complains of heavy tired feeling in the limb before the manifestations of spasm or a pecu-

liar tingling or numbness. Diathetic cramps, particularly, like gout seems prone to choose the sleeping hours towards morning when the subject has been sleeping quietly. The most characteristic symptoms, however, are the painful spasms, or a lack of coördination of the affected group.

Diagnosis.—As a rule, the diagnosis is unmistakable, no temperature—want of coördination. Character of the pain.

Pathology.—That the spasm and pain of cramps and the extreme tenderness and painful condition of muscular rheumatism are caused by toxic material in the muscles appears evident. But the quality and character of the toxicmaterial is at present one of nature's mysteries. It would seem reasonable to suppose that the toxic material, which excites in the muscle the spasm and pain in industrial cramp, must be proprio-ceptive, generated in the muscle by its constant use. While it is not unreasonable to suppose that the toxic material in the rheumatic muscle and perhaps in the diathetic cramps, is extero-ceptive. The history of the two conditions cramps and muscular rheumatism is so unlike, one cannot imagine that the same toxic material of industrial cramps and muscular rheumatism have the same etiology.

Prognosis, of course, must depend upon the variety, the muscle or group of muscles involved. Some cases are transient, other cases persistent and unfavorable. When the etiology of a case is doubtful, the prognosis cannot be definite. For instance, cramps or spasms of the diaphragm, the cause is frequently doubtful.

Treatment of the industrial variety, rest to the muscle or group of muscles involved is an absolute necessity, but alas not always successful. The exhausted brain cells do not recover their function. The same applies to change of occupation. Though many cases of industrial cramps, are completely cured by rest or change of occupation. Other cases require long, careful and systematic constitutional treatment. Such as small doses of phosphorus, arsenic, strychnine. Barring complications much is to be hoped from rest.

Traumatic cases must necessarily depend upon the extent of the injury.

Diathetic cramps, we must look to the diet, age, clothing, habits, history, occupation, etc. Heat in most cases of cramps regardles sof the cause will relieve the cramps temporarily at least. A warm foot bath at bed time and woolen socks at night will often insure the subject a good night's rest, that might be greatly disturbed if they retired with cold feet. Five to ten grains of aspirin taken at bed time, in many cases secures to the subject of night cramps a good night's rest. The general condition of the patient requires close attention, especially the etiology of the case.

Massage, electricity, etc., have proven beneficial in some cases. Baths at hot springs, that is, a course of treatment of baths and internal use of the waters, especially in diathetic cases, have often proved beneficial. Following the relief obtained at the springs, when the patient is extremely careful of diet,, etc., a permanent cure is effected.

The Man Young at Fifty

SPECIAL "CURES" OR TREATMENT METHODS.

Promising Means of Radical Betterment Suitable for the Mature Adult.

J. MADISON TAYLOR, A.B., M.D.,

PROFESSOR OF PHYSICAL THERAPEUTICS AND DIETETICS, MEDICAL DEPARTMENT TEMPLE UNIVERSITY,

Philadelphia, Pa.

The purpose of these brief remarks, concerning well attested methods of treating obstinate or complex or obscure maladies, is to afford an idea of their useful features and to aid the patient's confidence in them, when professional advice is given. They also serve an equally useful purpose to raise the coefficient of efficiency, to prevent disabilities and decrepitudes, to postpone the evil days of deterioration.

Many conditions arise in the history of a mature adult when, while he or she is not recognizably ill or seriously ailing, it becomes essential or desirable to pursue a systematic, thorough course, designed to make over and to reinforce the energy fund. The disorders found or their effects experienced may not seem to the patient urgent or even grave, yet a wise medical counsellor will either know, or adequately infer, that radical measures must be taken. The indications are often plain enough to the expert, but difficult to present in such a way as to secure coöperation of the patient without at the same time inducing alarm.

Systems of treatment, grouped remedies, are often needed by the mature adult, in order to overcome obstinate weaknesses, or protracted complex or obstinate ailments, to raise the plane of vigor, to reduce the severity of threatening disorders, or to check the progress of obvious or inferred dangerous states.

The individual thus advised tends to resent the counsel given. He is tempted to demur, to postpone or decline such counsel, hence he needs a fair idea of the importance or forms of these grouped procedures, so as to better appreciate what they are, and what can be expected from them. It is always necessary that a clear understanding shall be reached between adviser and client in order to fortify confidence, not only to accept and pursue the advice, but to learn as nearly as possible the nature of the measures proposed, and what may be expected from them. When a mutual understanding is reached, a compact should be entered upon which shall be binding. Leave to the medical adviser such details as choice of time, place and other details.

The disorders to be minimized or cured are oftentimes obvious enough to the medical expert, but may not be recognizable by the patient, or are difficult to present in such a way as to secure full coöperation. Indeed many serious states can be forefended only by submitting to regular periodic examinations. While some facts can be readily learned, it is only as obscuring conditions become gradually removed giving light upon the backgrounds, that contributory disorders or disabilities come into view.

At other times an individual notices a trifling ailment, and upon consulting an expert, a far more serious malady becomes revealed. This act of revelation should be a cause for thankfulness since the peril can be then checked in its incipiency, or reduced by prompt and thorough remediation.

At yet other times a watchful medical adviser will note fluctuations in the energies, losses of vigor in some direction, or determine an unsuspected disorder.

Most persons tend to resent any imputation of disturbed states of the mind, the emotions, the feelings, the disposition. And yet in most instances they are the ef-

fects of depressing anxieties, or are due to needless worries or wrong interpretations of quite simple things. Indeed one of the most difficult problems the physican is called upon to solve, is to broach the subject of perturbations of the mind or the emotions of the personality.

Yet so common are these confusion states, bewilderments, misconceptions, or psychopathies, that they constitute by far the larger part of human ailments, especially in those whose days have come to the lengthening shadows. Many physicians being well aware of the opposition, the misconceptions, also the likelihood of blame they are likely to incur, are tempted to avoid mentioning their suspicions until the malady becomes firmly established, oftentimes incurable.

This hesitation not seldom proves to be to the last degree unfortunate. The mind and body are one. Disorders of the one react and interact upon the other. Mental peculiarities are in many instances the sole indications of beginning physical maladies and, on the other hand, physical derangements may afford plain indications of beginning or progressive mental disorders. The earlier such dangers are foreseen and defined and the more radically they are treated, the better.

Ancient errors, traditions, echoes of romantic or foolish sentimentalities graphically displayed in song and story, have tended to create dangerous misapprehensions as to some of the most vital issues of life.

One wholly erroneous idea still dominates popular belief, viz: that when one has been mentally disordered the condition is likely to recur. Or, to put it another way, when an indivdual has been known to have suffered from some derangement to the mind, that person's reputation for sanity is forever impugned. Much the same error clings to the idea of "consumption," to "Bright's disease," even to chronic dyspepsia. And yet true it is an individual may suffer at one time from any or all of these maladies and ultimately recover clinically from each and every one—including the worst "bogey" of all —"mental disorder." Indeed, some of the most real and chronic mental diseases are never acknowledged by the patients or their families. They do not need to be, provided the adviser is given authority to direct and pursue the essential remedies.

In the selection and pursuit of systematic special cures these facts are urged:

Whatever be the nature of the proposition, however simple, or more often complex, whether the measures recommended be merely desirable to fortify the fund of energies, or to restore errant energies to their normal channels for keeping the mind and body at their best, or whether the proposition is to make over depreciated energies, or structures or organs, both client and adviser should face the problem with a fair balancing of the pros and cons and then faithfully pursue radical measures for cure.

Most difficult it may prove to bring all the facts, or sound inferences, to the consciousness of the patient, or to the family in such a way as to secure acquiescence or full co-operation without exciting, as has been said, undue alarm or misunderstanding.

Having selected a competent adviser who is acting in the best interests of the patient, leave the matter to him. He may desire consultations, partly to fortify his own judgment, partly to get some new light or specific recommendations, but chiefly in order to share the responsibilities of the decision. If so, get the consultations, secure all the necessary expert findings, and submit to the decisions reached.

Let the parties in interest thereupon come to a frank understanding on one essential point: when it has been determined, after due deliberation and careful study, when a course of radical treatment has been determined on, remedial measures either curative or merely wisely economic, it is the part of wisdom to concur at once, get to work, or to rest, and pursue the recommendations. Thereby the best results are secured at the earliest moment, and at the smallest cost in energy, in money values, or in sufferings. Then let the patient be faithful and consistent just as in any other enterprise, or game of life, or health, or venture wherein one stands to win or lose one's most valuable asset—one's health and productivity. You win in proportion as you play the game fairly, and forbear cheating yourself.

By the same token it is well to familiarize one's self with the nature, character, scope and promise of the measures contemplated, the rationale of the procedure. Here set forth are sketches of a few:

Among the systems of rehabilitation which experience has endorsed which were or are in vogue, are the following:

The Rest Cure, treatment by rest, isolation, forced feeding, re-education of the functions, the personality and the muscles (neuro-muscular mechanisms). This was devised and used with unexampled success by the late Weir Mitchell. (At the end of this article will be found a brief outline of the purposes, procedures and rationale of the rest treatment.)

Spa Tr nent, the ancient as well as modern, the use of he r springs around which have gradually grown up s ccial systems of accessory forms of treatment, designed to enhance or supplement the effect of the waters, whether these waters be hot or cold, tonic, medicated, alkaline, laxative, alterative, radiumized, or merely pure diuretics or eliminators of body formed poisons. Spa cures are similar in principle to sanitorium treatments with the added element of specialized waters.

One feature in common to most, if not all Spa cures, is early rising, gentle graduated walking during the intervals of drinking the waters, "Terrain Cures." Also a particularized diet is enforced to conform to the peculiarites of medicament contained, as well as to accord with the nature of the malady under consideration. The early rising and gentle exercise is so uniform a feature that it must indicate or shadow forth an important physiologic principle. There are ample reasons to infer that they are obvious forceful instrumentalities in the regulation of most metabolic disorders, notably of cardio-vascular-renal and gouty disorders. These main procedures can be employed to advantage at any time or place along with any others required.

Climatic Cures.—To provide opportunities for changes of scene, of circumstance, of elevation, mountain or seashore (littoral) of air, dry or moist, cool or balmy, or hot or cold, still or windy, relaxing or invigorating, or alternations of a desirable character, have always proved of value.

Most Spas are, and all Sanitoria should be, situated in peculiarly favorable localities, for the reasons above cited, and also there should be beauties of nature to visualize. Agreeable scenes exert a large influence in securing conditions of advantage for repair. Just as some people are ear-minded and are influenced favorably by sounds (e. g., music), so others—most people—are also eye-minded.

Sanatorium Cures.—For a considerable group of invalids vastly better results from treatment can be secured by making use of especially equipped institutions, wherein varied and elaborated devices are available to bring about desirable results. These usually include special baths, electrical appliances, radium, roentgen rays, sun rays, "heliotherapy," ultra violet rays, alpine sun lamps, or quartz filters, Finsen rays, indeed all sorts and kinds of "rays." The whole range of special remedies

or instrumentalities used—except the psychotherapeutic element—may be termed mechanistic or better, orthokinetic, since they are achieved through modalities of movement. This is true also of the bathing or balneogenic features, hydrogenic, hydro-therapeutic, also thermogenic, electrogenic, massage, manipulation and graduated active movements, etc.

The advantages of sanitoria are enormous, but the disadvantages must be equally considered and are readily avoided. Where a considerable group of ailing individuals are herded together, all bent upon regaining health, the tendency is for each to dwell constantly upon his own particular woes, to compare symptoms and supposed progress or retardation, thus to become increasingly introspective, hypochondriacal. These objectionable features must be clearly and emphatically pointed out by the adviser before recommending a patient to sejourn at a sanitorium. Also the physican in charge, if he does his duty, will keep this warning constantly before his own and the patient's consciousness.

"Nature Cures" (so-called), exposure of the body to the air, the sun, the wind, the rain, the use of active games while naked (gymnastics in its original and literal sense), camping out in the open, in short any and every "natural" method, which is capable of bringing the deteriorated creature back to primitive and simplified forms of living, in accord with man's original design, as when he lived a cave-dweller, a primeval woodsman, a fisherman, a hunter, or the like fundamentals of natural re-establishing.

Water Cures.—Hydro or balneo-therapeutic treatments, bathing, medicated baths, hydrologic (or hydrogenic) methods, etc., deserve special mention. Water cures were enormously in vogue during the childhood of the race. Though the name is no longer used, various devices for applying divers forms or modalities or contracts of heat and cold through the medium of water, are still employed (they always will be), but usually in connection with spas, springs, and sanitoria.

The "Kniepp Cure" is one modality of water and exercise treatment of an interesting character which held attention during the life of that dominant mentality, Father Kniepp. Let me emphasize the unimpeachable value of this cure; the patients walk barefoot on damp grass, as the chief feature of the system. The other features are careful diet, regular hours, and many admirable adaptations of hygiene. The act of walking barefoot is a most excellent measure, one I have repeatedly called attention to elsewhere. Anyone can take the Kniepp Cure at the seashore, walking in and out of the wash of the sea, the sand of the shore being the full equivalent of the dampened grass, and the surface is an agreeable one for tender, diseased and ailing feet. Here we have excellent means of bringing deformed feet back to normal. The contrasts of cool and warm, of wet and dry, supplement the natural movements enforced.

Dietetic Cures.—The regulation of food, feeding, nutrition, the what, how, when, why and why not to eat, are of paramount value in many instances and for a variety of cogent reasons. Among the first is to reduce over-weight, or second, to increase subnormal weight, third, is to correct specific errors in body chemistry, "disorders of metabolism" such as in diabetes, in gout, in heart, blood vessels and kidney disorders, in skin diseases, in joint troubles (arthritism), especially in cancer, and many varieties and forms of nutritional error.

Diseases of the joints are particularly amenable to dietetic regulation, notably that hideous disease called "rheumatoid arthritis." The point one must bear in mind in this connection is the imperative need to begin treatment at the earliest moment and to be faithful and consistent. In all forms of arthritis, or the abnormal reactions of a joint and associated structures, due to some local infection or profound disturbance of body chemistry, is to radically remove any infective cause or septic focus and to persist in educative movements while the joints are still tender and inflamed. After the structures have ceased to be tender or movable, little or no restoration can be assured.

Swimming, or bathing in a deep pool, is of extraordinary value for tender joints, because the weight of the body is borne by the water and greater freedom of movement is encouraged.

Among the special forms of cure to be mentioned—but of greatest value and promise—is:

Mind Cure.—Psychotherapy, regulation of disturbed states of personality, of emotion, feelings, among which are psychopathies, bewilderments, all the way to serious melancholias, excitements, manic depressive states, and the like serious mental diseases.

This subject has grown so vast, so elaborated (even verbigerations), that the reader is referred elsewhere for detailed information. Meanwhile a point or two must be presented:

Whether there can occur a disorder, much less a disease of the mind independent of some physical derangement or disease is a mooted point, only to be settled when we learn much in certain directions which we do not yet know.

It is a more than safe conclusion that it is imperative to omit no effort, not only to readjust the mental (psychogenic) processes, but also to bring to the highest possible degree of stabilization the physical processes. In this enterprise such special systems of treatment as have been mentioned offer much, especially the Rest Cure.

The Rest Treatment Outlined, the Purposes, Procedures and Rationale.

In presenting a brief sketch of this original, rational, convenient, comprehensive and essentially economic group of remedial procedures, let me mention the fact of my having enjoyed the unique privilege of acting as personal assistant to the master clinician for sixteen years.

The rest cure, as Weir Mitchell taught and practiced it, having due regard to the character of the cases chosen, remains today an incomparable group of instrumentalities and favorable conditions for radical betterment. It is peculiarly adapted to complex blends of physical (somatogenic) and psychogenic disorders, psychopathics, neuropathies, and particularly for repair of the protracted effects of diverse disorders or diseases or shocks.

Doubtless many modern neurologists have made important contributions of their own to rest measures in many directions and degrees. So far as my observations go the beneficent results Mitchell secured were on a full parity with those being achieved today.

The objectives he pursued, the adaptations of agencies and the methods he employed, covered much the same domain of effort as do the moderns. To my mind his achievements were equally, if not more economic and permanent.

Whereas the modern methods—many of them—demand minute and specialized training in order to make expert use of them, any intelligent clinician can get equal or better results through judicious use of the rest cure. The terms Weir Mitchell devised in explanation of causes, phenomena and rationale were his own and, though couched in the simplest Anglo

Saxon, almost monosyllabic wording, yet they omitted little or nothing necessary for use today. However, there could be no mistaking he aimed straight at the same objectives now appropriated as original by moderns, which they express in terms to dazzle any but an expert etymologist. They readily confuse a less elaborated, but practically competent clinician.

Many of the newer terms employed are the product of real advances in psychology, pathology and psychopathology. Others again are so quaint, so ultra-refined they scatter the fire and confuse the aim of the makers and of their disciples. Not seldom there are produced a strange entanglement in concepts. Weir Mitchell assuredly appreciated the essentials and taught in plain language much that is being rediscovered and now expressed in ponderous Teutonic verbiage. Mitchell moreover shadowed forth the clinical essentials, pursuing his purposes through more direct paths because the human material was prepared by reducing the creature to a more receptive, a peculiarly favorable, state. His vision, his constructive imagination was so unerring that on comparing present "discoveries" with the original discoveries I am lost in admiration of Weir Mitchell's precicience.

The effects of protracted disease as met today are of such complexity they do not lend themselves well to definite classification, hence must be worked out as a continuous performance, including: Progressive diagnoses, inferences, compromises, and meeting of indications as they become revealed. Terms to describe the variegated states will vary from the observer's viewpoint, as he recognizes phenomena with which he happens to be familiar or was trained in the proportionate significances.

Whatsoever be the disturbed physical processes, they are obscured by self-misinterpretations, erroneous narration of feelings and phenomena. Hence the aim in selecting measures is to reduce these diversified numerators to simple or common denominators. This is supplied by the resources of the rest cure, which in barest outline may be visualized thus:

(1) The patient is placed in a completely negative phase of actuation—at absolute rest, the most favorable position wherein aberrent forces can come back most promptly to equilibrium, through release of tension in spasmodic, and encouraging tonicity in relaxed, structures. Thus the next stage of advance is made readily. By the way, experience shows that release of tension, physical or emotional, is only secured after at least ten to twenty days.

(2) Isolation, relief and protection from all preventable outside influences, excessive stimuli or irritations, a narrowing of the physical, mental and emotional horizon, a reducing to the minimum any perturbing forces which might impinge upon an irritable consciousness, cellular and cerebral. Thus is achieved the first essential step in repair, viz: poise, tranquility, cellular stability. At least the patient is placed in an environment most favorable to energy renewal and of receptivity to salutory suggestion. Let it be observed that in order to secure a complete negative phase of actuation, adequate time and continuity of favorable conditions also the omission of petty, annoying interruptions, is paramount to the economies of repair.

(3) States of receptivity to reconstructive suggestion are thus secured, through mental distraction, simplified concepts, time and opportunity for self-examinations. Thus one comes to learn the position one now occupies in the scheme of life, the form and kind of perturbations of person and personality existing, also a release from aggravations due to the life of relationships. The patient is thus rendered malleable and receptive to right impressions and to an extent difficult to explain unless one has had experience in inducing this state.

(4) Habits of life are thereby reduced to the primitive, through steady and unconsicous readjustments on a biologic basis through routine, monotony, submission to what is done to one and what one shall do, or not do; a regulation of the acts of eating, sleeping, the tranquil acceptance of suitable reparative stimuli of which bathing, skin friction, manipulation, electrotherapeutics and such other mechanistic or orthokinetic measures as may be indicated.

Thus a regulation is enforced of all life processes, organic rythms, cycles of energizing, also of nutritive, circulatory, myocardial and vascular rest, also readjustment of respiratory, genito-urinary, and especially of the feeling tones, emotivity. Over-tension is reduced, relaxed parts are toned up, stabilization is encouraged.

(5) Thus the creature is put in tune with enrivonment, as nearly as possible like to the primitive rest state of lowly organisms; soothing and re-establishing to mind and body. The horizon is thereby limited, excess irritability fades away, a new point of departure is secured for repair and for purposive control, for ideation and for psychomotion, for doing right and equally for not doing wrong. At the same time commotions in emotion and in cerebration subside; thus the creature is prepared for the next stage, which is:

(6) Volition, conscious purpose, adaptative control, for actuation and of skill in performing, and for the resumption of a balanced state in livingness and relationships.

(7) Early or late in the procedures, as conditions warrant, as both poise and power grow, more or less of purposive effort is encouraged, first by resisting movements, next combined coöperations under direction from the masseur, and later full resisting and voluntary movements are encouraged and systematically directed. During convalescence graduated movements, "resistences against the load" are enforced; then comes sitting up once a day for ten minutes—which is usually found quite enough—then twice a day, then for longer periods by five minute increments to an hour. Then a few steps, then longer walks, more complex and forceful movements, free exercises, all under careful system at first.

Later the return to full customary activities is supervised. The patient is not "turned loose" to cure or kill himself by blundering misuse of the restored powers. Thus mind and body, the cellular as well as the cerebral consciousness, undergoes an intelligent restraining, a re-establishment which is complete, permanent, and not haphazard.

In conclusion I may mention the "Partial Rest Measures" which are much oftener indicated. These consist of so much rest and no more, as is needed—usually hour for hour—that is, an hour's activity followed by an hour's absolute rest; also such adaptations of accessory or supplemental remedies as the case may require. This partial rest is similar to carefully selected and graded measures to enhance convalescence.

A Doctors' Story

DOCTOR AND PATIENCE

HAROLD M. HAYS,
New York

CHAPTER I.

The clamorous bang of syncopated sound had ceased. The rattle of dishes continued, but the air seemed suddenly to have quieted. Franklyn and I, separated by a two-foot square table on which were promiscuously spread variegated chinaware, silver-plated trays, coffee pot, sugar bowl and cream pitcher on a fairly clean cloth, indolently looked at each other as we puffed our cigarettes.

"I'm up against it, old man," Franklin said. "I feel all hollow in the inside. The independent spirit hath deserted me. Expressing it lightly, my liver is in my head; my brains are in my feet."

I smiled. I had somewhat the same feeling myself.

"It isn't very funny, is it," I said, "this being launched out into the world? Let's see, how old are you?"

"Going on twenty-seven and never made a nickel in my life. The pay check has always come in regularly from the old man. But his business funked last year and it's up to me. We're about the same age, aren't we?"

"I feel a hundred tonight," I answered, "but I'm about the same age. Oh, hell, let's get a cocktail. What'll you have?"

"Bronix," he replied. "With plenty of kick to it."

The silent, dark-clad waiter who had been hovering nearby bent his head to indicate that he had heard the order for two Bronx cocktails. Wallick's, a well-known restaurant on Broadway, was noted for its good food and drink. In a few moments the refreshing cocktails were on the table, raised to our lips and in a single gulp, they began a stimulating race through our bodies. We had had others, but this last one, taken after eating, against all doctor's and epicurean rules, shook us from our lethargy and awakened us to the fact that there was a rosy world around us.

"When do you leave town, Bill?" I asked.

"Hoped to get away to-morrow," he replied. "But my dough's pretty low. Think I'll go home first and then beat it for the wild and wooly West. At present I have about five dollars and ten cents in my pocket."

"Match you double or nothing," I said quickly.

"Nothin' doing, old man," Franklyn returned. "In our balmy days at the hospital when financial cares were nought and penny ante or fifty cent limit went hand in hand with matching pennies, nickels, dimes, quarters or dollars, gambling was alright, for it made ue forget the old lady in the ward with a gastric ulcer or the appendix we had just operated upon. You must be full of dough if you want to get my last nickel away from me."

I smiled and felt in my pocket where the loose change jingled but nary a bill to accompany the jingle.

"I've got the large amount of ninety-eight cents—and to-morrow I go out to meet the world. Gad, I've spent twenty-seven years in study and here I am with a head full of practical wisdom—maybe—and empty pockets."

Will Franklyn and I, John Snaith, after leaving Williams College, where we had skidded through numerous examinations and obtained our A. B.'s, started for the great city to study medicine. Ever since I could remember, I had wanted to be a doctor and people all along the line said I would make a success of it, for what reasons I don't know. I wasn't half as sure about it as they were. I talked so much about studying medicine that Bill decided to come along and try the game. He had no professional ambitions. One thing was as good as another. The silver spoon in his mouth had not tarnished, until the year before, when his father failed in business, so that he never had to worry about money.

Bill was a well set up young fellow. Glowing, piercing, honest dark brown eyes were deeply set below a broad intellectual forehead. His straight nose and even rows of teeth over a mouth which did not have to be hidden by a mustache, would make anyone look at him twice. He was six feet tall and stood as straight as an arrow. In his spotless white hospital suit he was a joy to look at. Everyone loved Bill. He bubbled with happiness, thoughtlessness, kindness and every other decentness one can think of. The only criticism I ever had heard of Bill was that he took the world's responsibilities too lightly and didn't care a hang what happened the next day. The night before an examination he would wander off with his text book in his hand, returning six hours later saying that he had been to a delightful musical comedy where he had studied his anatomy between the acts.

"And you know, Johnny, there's nothing like a musical comedy to increase your interest in anatomy," he would say laughingly. "When a girl kicks her leg over her head, I think a great deal more of the gastrocnemeus muscle. I wonder where it stretches from, how it holds together, how the circulation goes on in there and how much of the sciatic nerve uses its energy. Then one has a chance to work out the biceps and triceps muscles, the trigeminus and the muscles of osculation. I'll bet I know more about it than you do—and I only studied out of Gray between the acts."

The next day would be the anatomy examination. I'd come in to the examination rooms groggy and headachy from too much study. Bill would be bright-eyed and care-free. We'd both pass the examination somehow; but after it was over Bill would forget it, while I'd worry until the day our marks were posted.

It is difficult for me to describe myself. Perhaps these pages will show what sort of a fellow I am. In many ways I was the opposite of Bill. In the first place, I was six inches shorter, slightly round-shouldered, bordered on thinness and never for a moment did anyone call me good-looking, except Evelyn, who was to be my wife and her eyes were blinded with love. I was supposed to be too serious. But I had one thing in my favor. I made friends easily. I unconsciously loved everything in the world and was willing to be friends with a stray mongrel or the President of the United States. The pup had to meet me half way—that was all. I found that the best way to make friends was to just sit tight and be natural. My friends could be counted among the ward patients in the hospital, the bootblack on the corner, the Italian who kept peanuts on the next block, and the visiting surgeons. There are one or two other things in my character that I want to brag about. I was frankly honest and sincere. I wore my character on my coat sleeve and wasn't ashamed of it and I spent more money on near-clean clothes than I did on drinks and smokes. Moreover, I was perfectly willing to give my last nickel away for fear it would burn a hole in my pocket if I didn't. This may have been careless liberality, but it wasn't. The

other man needed the nickel more than I did—that's all.

After Franklyn and I had passed our final examinations at the medical school and had walked in stately cap and gown in the graduation parade, we decided we were the whole thing in the doctor line. We had successfully manned the ship for four years on the high seas of medical education and had taken the Hippicratic oath (at the same time the Bacchanlian one). We had taken the examination for State licenses. We were full-fledged medicos. We had the right to saw off a toe, open a brain, take out a stomach, examine a heart, prescribe opium and morphine and condemn Lydia Pinkham's Compound for children. Did we not know that it contained opium which was very injurious?

We had passed another trying examination for an interneship in a large hospital. For three days we had stood up for verbal examinations and sat down for written ones. At the end of that time we had made it for the same hospital. That night we got drunk. I'm not ashamed to admit it. Any medical student who doesn't get drunk at such a time is too stupid or too good. In the midst of our tenth beer, Bill sang:

"Put it over on them, didn't we?"

"What'd you mean?" I muddily inquired.

"I told you, I told you," he went on. "'Member the tip I gave you? Told you those guys couldn't know everything. Told you you had to pretend you knew everything. Some of the questions were stunners. How in hell was anyone to know all the points of interest of the petrous portion of the temporal bone? No ear specialist remembers 'em all. So what'd I do?"

"Well, what the devil did you do?" I asked, broadly grinning, for I was recalling my own experience.

"What'd I do? I did the only smart thing. I knew the auditory nerve ran through the internal auditory meatus there. So I began to describe it at length—how long, broad and important it was. I kept reeling it off for ten minutes. Then old Professor So-and-So got impatient and said he guessed I knew the rest and I said, "Yes, sir," in my politest fashion.

I roared heartily.

"Same with me, same with me. Some profs they are. Ever hear of the foramen ovale?"

"Once I did," Bill said.

"The guy asked me to describe it. I knew he was a nerve specialist and took a chance that he didn't know where it was except that it was in the head. So I began on equilibrium and what an abscess of the brain would do. I guess he was tired of examining, anyway, so he took out his cigarettes and offered me one. We smoked ten minutes, and then he got up, yawned, came over and patted me on the back and said, 'You'll do.'"

Bill and I had doped it out right. Right or wrong, don't ever say you don't know to an examiner. The study of medicine is so big that only a genius knows it all—and then he's a fool if he says he knows it all.

The next two years were full ones. Bill and I started in as internes with the supreme feeling that we had mastered medicine in its entirety. We were sure of our knowledge as only a fledgling doctor can be. Our four years of theoretical study, to which was added so-called practical work on patients—poor devils—had made us perfect machines for killing people. During our two years at the hospital we had unlearned as much theory as we could and put practical knowledge in its place. Some of the men who couldn't afford an additional two years of study had gone right in to practice. They had about as much knowledge of the treatment of patients as a chiropractor who has bought his diploma at one of the college diploma factories out West.

I met one of these fellows one day as I was leaving the hospital. Jake Aronson lived on the lower East Side in the worst tenement district. He was undersized, loosely put together, but had a real head on his shoulders. His Semitic origin had made him none the less liked in college. He had a grandmother, mother and father and numerous brothers and sisters that he had to help along.

"Hello, Snaith, how are you getting on?" he said as we shook hands cordially.

"Fine, Jake; how's business with you?" I replied.

There was a tired, worried look in his bright eyes.

"Been doing pretty well down there. But I wish I were in your boots. You're learning, learning the real thing. I've been practicing two years now, and take it from me, it hasn't been easy. Say, Snaith, the authorities ought to be ashamed to let us practice medicine when we leave school. We're cock sure of ourselves until we get up against the first real sick patient.

"Three of us went down there to practice at the same time. Cohen, Greenstein and I. We've been struggling to make a living. We have to fight lodge practice and are lucky to get fifty cents a call. The first month I made ten dollars giving dope for another doctor. The next month I got a heart case and a couple of confinements came along. The first year I made five hundred dollars, less than fifty dollars a month. The office expenses were almost that much. I was so discouraged I wanted to give it up. God knows what kind of treatment I handed out.

"The second year was a little better. I'm over the thousand dollar mark," and then he added wistfully, "but I know less about medicine than I ever did. If I had to do it over again, I'd take an interneship if I had to hock my very soul."

That was the way it was with many of the boys. It wasn't that they didn't want to study more. They felt they couldn't afford to. A signed diploma on the wall meant more to them than practical knowledge. They learned what they had to and no more. No one could blame them. The college and the State gave their endorsements after four years of study and the rest was up to them. It didn't make any difference how much the patient suffered from improper treatment. They practiced within the law.

I always felt sorry for these fellows and for the patients they treated and never did I feel sorrier for them than on this night when Franklyn and I were looking the future straight in the face. After our two years of interneship in one of our best hospitals, we were sizing ourselves up over a few Bronx cocktails and put ourselves at zero in the medical scale.

"You see it's this way with me, Bill," I said. "I'm going to stay here and try to make a go of it. Damned hard road."

"How about Evelyn?" he asked.

"That's another thing. We've been engaged four years and I'd make her marry me in a minute if someone would put up the cash. I've heard them say two could live as cheaply as one. They can if they want to starve."

I felt in my pocket and gathered the ninety-eight cents, which I laid on the table.

"Bill, let's weigh assets and liabilities," I continued. "I've got two cents less than a dollar in cash, the

prospect of a fifty dollar dividend at the end of the month, a few old clothes, some medical books, the love of a lovely girl like Evelyn, lots of nerve, no bad habits, except a pipe and cigarettes and many friends. Those are my assets. Liabilities? Rent, carfare, smokes, surgical instruments and innumerable other things I can't think of now. I've heard that with good luck a man might knock out a thousand or so his first year. Well, I should worry!"

Nevertheless the prospect appalled me and I felt squeamish.

Bill said nothing for a few moments.

The patient waiter came up with his bill, looking inquiringly from one to the other. It was $5.50. I nodded to Bill, as I saw that my ninety-eight cents wouldn't cover it. Silently I shoved over my handful of change.

"Let's start in even, old man," I said. "The addition of two things equals their sum which equals this bill plus the waiter's tip."

We paid the waiter, who thanked us more than necessary. He seemed to wonder why we threw in the three cents. The restaurant had quieted down. Most of the guests had departed and the orchestra had slipped into another room.

We reached the corner of Forty-second street and Broadway, where I was to take the subway to my boarding house uptown.

"Good-by, old man," I said to Bill. I felt sad at the thought of parting after all these years. "Let me hear from you soon. If I hear of a fiver floating around loose to-morrow I'll send it to you."

"Forget it. Put it toward the furniture," he called as he started down the street.

It was sometime before I heard from Bill again.

CHAPTER II.

Dr. Fred Armstrong, one of our ablest surgeons at the hospital, who had an international reputation, had taken a great interest in me while I was an interne. I had hoped that he would take me on as an assistant. I felt that an association with such a man would mean a great deal to me in many ways. So I was keenly disappointed when I left the hospital to get never a hint from him that he wanted me. However, the next morning I recalled that he had asked me to call on him when I started in practice. So I left my boarding house early.

His office was down in the Fifties, between Fifth and Sixth avenues, one of the most expensive blocks in the city. It was one of those old four-story, twenty-foot lime stone houses, from which the ugly high stoop had been removed so that the entrance was on a level with the street. I noticed that he had a neat little sign in a corner of the window. The black letters on the white background were not more than a half-inch high. I made up my mind to have a small sign like that. Its very small size bespoke the greatness of the man. I don't suppose he needed any sign. Then it occurred to me that the largest signs were always attached to the smallest doctors.

I rang the bell and inquired for the doctor of the firm little maid who smilingly answered the door so quickly that I felt sure she must have been sitting just behind it. She ushered me into the richly furnished reception room.

I had plenty of time to note the contents of the room, for Dr. Armstrong was busy. The walls were plainly painted in a dull gray which matched the woodwork. A few costly etchings in black frames showed off well by contrast. The highly polished floor was almost entirely covered by a thick imported rug. In the centre of the room was a large plain mahogany table on which were neatly piled the latest magazines. About a half dozen mahogany chairs were placed about. At the far end opposite the windows were two large doors almost entirely of grounded glass. The austere simplicity of the room struck me at once.

I did not have long to wait. When I entered Dr. Armstrong's office, he immediately shook hands with me and asked me to be seated in a comfortable, plain mahogany chair with black leather seat which was placed at the left hand side of his desk so that the light from the large double window at the back of the room shone on my face.

"Glad to see you, Snaith," he said cordially. "Going to start in practice?"

"Yes, sir," I answered respectfully. "Thought I'd come around for a few pointers."

Dr. Armstrong fell back in his chair and looked at me thoughtfully for a few moments.

"It's a great pleasure, Doctor, for me to be of any assistance I can to a young man just about to hang out his shingle. The first few years are hard for everybody. When I first opened up here in New York I had a few hundred dollars which I foolishly dissipated. I thought the first patient never would turn up. When he did turn up I gave him a hundred dollars worth of advice, for which I received his grateful thanks and nothing more. He was a D.B.—dead beat. You'll have lots of them. It's funny how that crowd always get hold of the new doctors and play them until they are found out. You can't steer away from them. You can't take any chances on knocking them for the fee first—they'd skip and then you wouldn't have any practice at all.

"I'm not going to try to steer your course for you, Snaith. You'll have to make or break on your own merits. What is one man's food is another man's poison. But there's one thing of paramount importance—be honest, be straight. You may think that easy. It is if you cultivate the habit, but take it from me, you'll be tempted as you never were in your life. Take the matter of fee-splitting for example."

"There isn't much of that in this city, is there?" I interposed.

Dr. Armstrong smiled cynically.

"There are a few medical men in this city, doctor, who would do anything to make a nickel. They are no more dishonest than the average shopkeeper who would short change you if he knew he wouldn't be found out. He doesn't want to be dishonest. But his income is in reverse proportion to his necessities. He finds that getting a rake-off from surgeons to whom he refers his practice, helps him materially and he has no worries. You'll find a few of them coming to you before long."

"But what's the harm in such a division of fees?" I asked. "The surgeon gets what he wants, gives the doctor his bit and the patient pays the same. Some of these fellows, take Dr. Aronson of my class for example—work for fifty cents a visit. Then a surgeon comes along, takes out an appendix for which he charges four to five hundred dollars. Aronson maybe has made the diagnosis and got a dollar or two. It doesn't seem fair when you think of it. I'd want to give him something."

Dr. Armstrong's strong black eyes looked at me half angrily, half condescendingly.

"Let me ask you a fair question, Snaith," he said. "Do you think Dr. Aronson would come to you to

have his patient operated upon?"

"Perhaps," I said.

"Why?" he asked.

"Because he knows me for one thing," I answered. "He might come to me."

"Supposing his patient could pay my fee—say five hundred dollars for an appendix operation," Dr. Armstrong queried of me smilingly. "You will take it for granted that I have more experience, more reputation than you have—and perhaps the chances of success with me are a trifle better."

"Yes, sir, I agree to that," I replied, flushing slightly. "But I've had a good training and there is no reason why the patient should not get well under me."

"Precisely, you're perfectly right," he answered quickly. "I'd trust many of the men I have trained to operate on me. I like your confident way of talking. But really, Snaith, do you think your friend Aronson would come to you? He's been using someone else during the past two years. No doubt he is fairly well satisfied with the man who does his surgical work—at least he is satisfied with what he gets out of it."

"I wouldn't blame him then for not changing as long as his patients get well. What's the harm in fee-splitting? I know it sounds nasty."

"I'll tell you where the harm is, young man," he retorted warmly. "And, for God's sake, don't get into it or you'll lose yourself so badly you won't know where you stand. Moreover you'll lose your standing among decent men.

"We'll take your friend Aronson for a sample. We'll take it for granted that he's a decent fellow, but he's short in pocket. He finds that he's practicing in a neighborhood where fee-splitting is the universal practice. The chief thing, nevertheless, is that he needs the money. Does he go to the surgeon who can do the best work for him? He does not! He goes to the man who will give him a decent rake-off. The patient will go wherever he is sent, taking it for granted that his doctor in whom he had unbounded confidence will send him to the best man. Now I don't say there are not some good surgeons who split fees. There are. But that is not the primary consideration. It's a question of money and nothing more. Then there are many side-lights on it.

"Now here's an experience I had only a short time ago. It just goes to show how far some men will go for a dollar. I operated upon the wife of the brother of a doctor. She took an expensive private room in the hospital and seemed to have plenty of ready money. Of course I had no intention of sending a bill because it was a doctor's relative.

"A few weeks after the patient went home the telephone rang one morning. The doctor was on the other end.

" 'My brother has not received a bill from you, Dr. Armstrong,' he said.

" 'Don't intend to send one,' I answered. 'I'm glad to do anything I can for your family at any time without question of remuneration.'

"The doctor seemed to hesitate for a moment then:

" 'Do me a favor, doctor, and send them a bill for two hundred dollars,' he whined.

" 'I don't want it,' I replied.

" 'But, doctor, I've spent a lot of time on the case,' he came back at me.

"I began to smell a nigger in the wood-pile.

" 'You see, doctor, if you don't send a bill, I don't get anything,' he went on. 'Now you send them a bill for two hundred dollars and then you give me half.'

"I was so blazing mad I would have smashed him if he had been in my office. I thought for a moment before I answered.

" 'Yes, I'll send your brother a bill,' I said sternly. 'I'll send him a bill for two hundred dollars as you suggest. I'll itemize the bill and put down one hundred dollars for your services and one hundred dollars to be sent to the general fund of the hospital.'

"It is needless to say that I never got the money—and I've never seen the doctor since.

"Now, Snaith, there's the crux of the whole matter. There's nothing wrong with dividing fees *as long as the patient knows about it*. But these doctors don't want their patients to know about it. Some of them collect fees for their own services and get a rake-off, too. They double-cross the patient in every way."

"But how can you decently get rid of these fellows when they come around?" I inquired.

"Do as I do," Dr. Armstrong replied. "Tell them that you think they ought to get something, that they are entitled to something. Tell them they should let you know in each case what their service is worth and that you will be glad to include it in your bill—(and here he smiled)—but that in the bill you will definitely state, "For Dr. So-and-So's services, so much." This at least lets the patient know what he is paying for."

"How does it work?" I asked.

"Never see those doctors again," Dr. Armstrong answered. "It doesn't look as though I've suffered very much, does it?"

"Not very," I answered with a half envious laugh.

Dr. Armstrong took his watch out of his vest pocket and glanced at it hurriedly. I arose from my chair.

"Wish I had more time to talk to you, Snaith," he said. "Come in any time. I can always spare a moment. By the way, there's just one other thing."

"Yes, sir."

"For a time I had expected to take you in as my assistant. But I've changed my mind—for your sake. You've the making of a good surgeon in you. I want you to make your own way. Get your own hard knocks. If people got to know you as my assistant, you'd always be known that way. That would be bad for you. Moreover, you'd get dependent on an income from me and would feel resentful when you had to side-step to give up to another young man. I don't need a man with brains for an assistant. I want a man who can follow out my instructions and not mess things by unconsciously disagreeing with me. Once I was an assistant for a few months, but the man I was with and I haven't talked since. I could have used that man many a time. Perhaps my friendship will mean a great deal to you."

"Thank you, Dr. Armstrong," I replied. "I'm sure I'll need your moral backing," and I held out my hand which he grasped cordially. As he looked at me, he said:

"Need any money, Smith?"

"No, sir."

He smiled. "How much cash have you got on hand?"

"Not a darned penny."

CHAPTER III.

I spent the next few days looking round the city for offices in a suitable location. My landlady with whom I had lived for four years while I was in medical school, was willing to take me in on trust and one of my fraternity brothers whom I met there was

willing to lend me ten dollars for a few weeks until my fifty dollar dividend came in. Meanwhile I wrote a letter to a wealthy uncle, Jack Hornaday, whom I had not seen in years, but who had always been willing to advance me small sums, explained my circumstances to him frankly and asked him to advance me a few hundred dollars on future prospects.

During those days of looking about I was discouraged more than once. There didn't seem to be a suitable apartment anywhere that was within my means. A thousand dollars a year for an apartment seemed to be cheap to the real estate man, but looked bigger than a million dollars to me. I only hoped if I did get an apartment to suit me that the agent wouldn't ask me for a statement of my assets and liabilities. All my accounts could have been kept on a piece of paper two millimeters square.

Finally, at the end of the third day, I found what I wanted. It was a high-class looking apartment from the outside. There were only five rooms, but they were large enough for me and the rent was fairly reasonable, sixty-five dollars a month. I asked the agent to give me a refusal on it for twenty-four hours and then went over to see Evelyn, who lived on Staten Island. She was just as much worried about me as I was about myself.

Evelyn and I had been engaged for four years and a pretty tough time it was for her. Sometimes I wasn't able to see her for days at a time, but we hardly ever let twenty-four hours go by without getting in touch with each other. Evelyn took on stenography work when she found we had to wait so long and had saved a good many pennies, which I found were to stand us in good stead later on. She lived with her father and mother over on Staten Island, where they had a comfortable modest home. There was no question about our marriage—sometime.

I can't describe Evelyn to you except to say she was a life-saver. She had a quaint, serious little face, a perfect peaches and cream complexion, beautiful hazel eyes which gave you a straight honest look. No one ever thought of flirting with Evelyn. But her pretty face attracted everybody and the girls in her own set thought her very stylish. Even if she dressed in a twenty-five dollar tailor-made, she always looked different. She made and remade her dresses in such a way that they always looked new and up-to-date, although I'm sure she didn't spend half what the other girls with whom she went did.

I only appreciated what Evelyn meant to me in later years. At this time I only appreciated two facts —that I loved her immeasurably and that she boosted me when I felt down and kept my mind from wandering to inconsequential but dangerous chorus girls. I don't pretend to be any decenter than the other fellows, but I felt that I had to be clean for Evelyn's sake.

I suppose most people would think it foolish and impractical for a fellow with nothing in his pockets and the prospect of keeping nothing in his pockets for some time to come, to think of marriage. It may be foolish for other people, but it wasn't foolish for me, nor is it for lots of fellows who have enough confidence in themselves, to feel the future. Evelyn and I had often talked over the matter, sometimes with her parents and sometimes alone. Once in awhile I would get into a funk and wonder whether I had a right to ask a girl to wait for me so long. Evelyn was twenty-four.

"Why do you worry about such things, John dear, if I don't?" she would ask.

"I don't know, Ev," I'd answer. "Sometimes it seems too much to ask of you. Lord knows how long it will be before I can support you decently. If it weren't for money, confound it."

Evelyn would come over and sit on my lap, twining her fingers through my hair.

"Love me, honey?" she would ask.

Then I'd forget everything, give her a good kiss (even if her parents were present) and let the future go hang.

Her father, Mr. Bertram, and I were talking it over one night when I had been particularly discouraged. We had had a hard day at the hospital and I was completely tired out.

"We have unbounded confidence in you, John, and we're not worrying. If you were willing to practice over here you could use our house and live with us until you began to make a go of it. Evelyn is supremely happy with your love and has blossomed out on it. As long as you remain true to her we are content. We always think of you as our son."

I went away cheered and glowing with happiness. Evelyn and I had decided that as soon as I made enough money to pay the rent regularly, we'd get married and brave the future together.

"I can cook better than a servant," she said, "and I can scrub and clean, too."

"What'll I do?" I asked.

"You can wash and dry the dishes and be a general all-round handy man. Manly labor of that kind will teach you the joy of not doing it when we have money enough to employ help."

"Barkus is willin'," I said, laughingly. "But Ev, we have to buy meat and potatoes and other vegetables and ice creams and cakes and coffee and butter and bread and such things. Where's the money coming from?"

"The good Lord will provide it, Boysy," she replied. "It's a funny thing, but I never heard of an improvident medical couple who ever went to the poor-house or ever starved to death. But we'll have to sponge on our friends once in awhile."

On my way down in the train to South Ferry I was absorbed in these thoughts and wondering what Evelyn would think of my selection. Of one thing I felt sure—it makes a fellow buckle down to realities and get busy when he has the love of a pure sweet girl that he intends to marry. I'd heard many young doctors discuss marriage and many of them felt it to be the utmost folly to think of such a thing. Those fellows sometimes thought that way so long that they never did marry the right girl. Some of them spent more money on flussies than it would have cost to keep house and then didn't have anything left to show for it. Those who had girls whom they intended to marry worked hard and seriously and in the end turned out to be better men. I don't want to say that unmarried doctors aren't as good doctors, but there's something lacking, a certain sympathetic feeling which make lots of patients fight shy of them.

Something attracted my attention to the other end of the car and before I knew what I was doing, I was up there bowing to a young woman and her escort. It was Marie Davis, a nurse who had been one of the prettiest girls in the training school. Her looks were better than her reputation. The interns used to chaff one another about her and there was hardly a one of them who had not been out with her against the rules of the hospital.

"How are you, Dr. Snaith?" she said cordially as she shook hands and then she smilingly turned to her companion, whom she introduced.

"Where are you located, doctor?" asked Dr. Alfred Vandeleer, after we had chatted for a few moments.

I told him, whereupon he informed me that he had an office on the same block.

I didn't like Dr. Vandeleer. I don't know why people form decided opinions on first meetings. I frequently did and very seldom did I find out that I misjudged anybody. There were lots of things about Vandeleer that rubbed me the wrong way. In the first place he looked too much like a doctor. Vandyke beard, heavy black mustache, black suit. He looked funereal. The only thing that relieved the sombreness was an oversized diamond in his tie, very much out of taste. Then again his over-prominent eyes, covered by big tortoise-shelled spectacles, were too shifty. He looked at the advertising sign over my head while talking to me. To add to my distate, he developed a condescending attitude toward me.

"When you come in to see me, Dr. Snaith, I'll give you a few pointers," he said. "Take it from me, look out for the almighty dollar. It's hard to get—and harder to hold on to when Marie is around," he added laughingly. His harsh laugh grated on my nerves.

"Oh, doctor," chimed in Marie Davis. "I'll get even with you for this. Now I'm going to make you take me to Shanley's for dinner."

I noticed the glittering diamond ring on the fourth finger of her left hand. She saw my look and smiled, holding out her hand for my inspection.

"Like it?" she asked. "Doctor gave it to me yesterday. We're going to be married soon."

"Congratulations," I said and shook hands with both of them.

I reached Evelyn's home just before dinner and found the family waiting for me. Evelyn was all anticipation, so I wasted no time in telling the family what I had done. All of them seemed pleased, particularly Evelyn, who was as happy as a baby girl with her first doll. I had to describe the place in detail to her, and then after we had finished dinner the four of us sat round the table. I drew a plan of the place with my knife on the tablecloth.

"Sounds pretty good, John," said Mother Bertram. "I know you are going to do well and I'm not afraid to trust Evelyn to you when you say the word—only where are you going to get the money for the furniture?"

I reached forth for her hand.

"I'm not worrying about getting it, mother. I'm worrying about paying for it. You see there are only five rooms. First, there's the waiting room, which will have to be our combination waiting room and sitting room. I want to fix it up simply but decently. It pays in the end to have good stuff. There's a little alcove room off that, separated from it by folding doors. Sometime I want to make that into a library. I'll use the dining room as an office for the present and the kitchen as a laboratory."

"You needn't worry about the waiting room, John," interposed Mr. Bertram. "Mother and I had decided to give you a substantial wedding present. We'll fix up that room for you now. Evelyn can get a few hours off and hustle round with you for furniture."

"Thanks, dad," both Evelyn and I said at the same time. "I don't hesitate to take it from you," I added. "I've fixed up about the office furniture."

"How?" asked Evelyn.

"Not having any money but an unmitigated nerve, I went down to a small but reliable surgical house. I met the owner, Mr. Rodney. I told him I was about to start practice and where I was looking for a place. Then I ordered about five hundred dollars worth of goods and told him I would add to the list. Of course he was quite delighted. When the bill was made out I told him in a stern business-like way that I needed what ready cash I had. He looked quite disappointed, but that didn't phase me.

"I expect to give you quite a little trade, Mr. Rodney," I said. "Now I'll make you a proposition. I'll give you twenty-five dollars or more a month to pay off this account and every other indebtedness I may incur. You can inquire about me at the hospital or from Dr. Armstrong, the surgeon there.

"As soon as I mentioned Armstrong's name that seemed to settle the matter, although I flatter myself that I looked honest. Mr. Rodney thought it over for a moment, went through the bill once or twice to see how much he might get stuck for and then promised to send me everything I ordered."

"I wish you hadn't had to do that," said Evelyn. "I've got more than that in the bank and you may as well have it. Please don't go into debt."

"I won't take your money, honey," I replied. "You just put that nest-egg away. You'll need it sometime. I feel a hundred per cent. better now that I am under obligations. Let's see how we stand. I expect fifty dollars the first of the month. Most of that goes to the landlady. I'm borrowing a few hundred from Uncle Jack. I won't have to worry about paying that back in a hurry. I expect I'm going to do something this first year, perhaps make a thousand dollars. Against that I have seven hundred and eighty dollars rent to pay; telephone, electricity will equal another hundred, eating will be at least ten dollars a week, which makes five hundred and twenty dollars. Clothes and laundry another hundred. Incidentals like carfare and tobacco one hundred, furniture on which I will have to pay three hundred dollars on account. Against this I have an income of fifty dollars a month and prospects."

"Put it down on paper," said Evelyn.

This is the way it stood:

LIABILITIES		ASSETS	
Rent	$780	Income of $50 per month	$600
Telephone and electricity	100	Prospects ? ? ?	
Food	520		
Clothes and laundry	100		
Incidentals	100		
Furniture on a/c..	300		
	$1900		

I didn't feel very good after I got it down on paper. It looked as though Evelyn and I never could get married. I was afraid to look at Evelyn. Before I had a chance she was behind my chair and had placed her arms lovingly around my neck.

"Don't you worry, Boysy," she said happily. "We have each other and everything is bound to come out right. I can wait if necessary, but I'll bet you we shall be able to get married before the first year is over."

"You're a darling," I answered feelingly, as I patted her hands around my neck. You know, dad and mother, your daughter ought to be called Perpetual Sunshine. She's like a golden ray in an otherwise clouded sky. She'd make a grumpy old pessimistic bachelor who was a misanthrope in the bargain, smile and wish he was married. Ev, if you stick by the old man—meaning me, of course, not your father—he'll weather the storm and come out

with flying colors. Every man who wants to be successful needs a little woman like you."

Before I left Mr. Bertram took me into his library.

"John, I'm sure of your future. I've said that many times. Of course Evelyn is happy with us, but she'd be happier with you. Now I haven't got much put by, boy, but what I have is yours and hers. Mother and I can get along for the present. If you want a couple of thousand dollars it's yours for the asking. We'll make it perfectly business-like. You can pay me six per cent interest. It's more than I get in the bank."

I couldn't keep the tears out of my eyes.

"Gee, you people are bricks. I want Evelyn badly, but I don't want her so badly that I'll tie any financial ropes around her and me. We may need the money sometime, but I hope we won't. If you are satisfied to have her wait another year, she and I will have to be content to wait, too. I think it's in me to make good."

"I know it is, my boy," he answered.

I left them with a light heart and returned to my boarding house. As I turned over for the last time to get to sleep my mind wasn't on Evelyn but on Dr. Vandeleer and Miss Davis.

(To be continued.)

Surgery

Sugar Dressings in Surgery

It seems to be generally acknowledged that the use of sugar as a surgical dressing has a favorable action on wound repair and granulation tissue. The action of moist dressings made with 48:1000 glucose serum and the action of dry dressings with powdered glucose should each be considered separately In the first case the dressings act like any other moist dressing; the quantity of glucose introduced on the wound is relatively very small, since a large number of gauze pads can be moistened with one liter of glucose serum—containing forty-eight grams of glucose. Therefore, glucose serum should be employed only when the patient cannot tolerate glucose in a dry form. Dry glucose dressings have two actions: firstly a physical action; they act in the same way as any inert powder and have the property of mechanically irritating the tissues; but the second, and most important action of powdered glucose is that it feeds the cells to which it is applied, and it is for this reason that it increases cell resistance and activity, consequently increasing local life. Sugar dressings may be correctly termed hyperbiotic and this hyperbiosis is one of supernutrition.

Hyperbiosis can be produced in two ways: thus light will, as we know from a present large experience, improve or cure tuberculous ulcerative processes. Radium in small doses acts similarly and in these lesions injections of soluble salts of radium into the tissues can be used or radiferous ointments or powders may be prescribed, some being indifferent, others both antiseptic and modifying. Electricity and active hyperemia increase the local circulation, fulguration also produces hyperbiosis, but in all these instances it is not a hyperbiosis from nutrition. It would consequently seem clear that their action is only momentary, the cells becoming exhausted after a variable lapse of time according to circumstances. Their nutrition is not increased by these means, but in the case of sugar dressing the cells are actually fed, they are not exhausted and the therapeutic effect is durable. Saccharose is not assimilable directly and for this reason glucose should be preferred, as its assimilation is complete. But the experimental fact remains that saccharose does give some appreciable results, nevertheless. Such being the case, it may be supposed that the cells, excited by the cane-sugar have furnished a ferment capable of transforming non-assimilable saccharose into glucose and levulose, both of which are directly assimilable. The number of ferments in the human organism is considerable so that this hypothesis can very logically be sustained.

But sugar is an excellent food for bacteria in general, although there are instances in which it has no action on them. Certain observers have even shown that sugar decreases the virulence of some, among them the staphylococcuus. Others maintain the contrary opinion and deny any favorable influence of glucose on suppuration. The question is still moot, but at least in some cases, glucose has had an undeniable influence in favoring the development of bacteria in wounds treated with it.

There is an important question to solve, that is, whether a wound in a diabetic patient can be treated with glucose. In these subjects we know the ease with which infectious processes develop; but is the sugar the only factor in their development? Sugar has unquestionably an importance, but other no less interesting factors also play a part. In fact, neuritis and polyneuritis are not uncommon in diabetes, and in this respect should not be overlooked since the experiments of a number of competent observers have demonstrated the influence of nerve division on the localization and development of suppurative processes in the area innervated. The vascular changes arising in diabetes, the hemorrhagic infarcts in the capillaries, may certainly not be without significance in the production of necrosis gangrene, and suppuration. Finally, in the normal state the pancreas throws a substance into the circulation which modifies the histological structures in the tissues and exercises a marked influence on their nutrition. The suppression of this pancreatic endocrine secretion will result in tissue changes insofar as the nutrition of the tissues is concerned; they lose their reserve materials, since the histolysis is no longer under control and consequently become an easy prey to bacterial invasion. But this is but one point. These materials derived from hystolytic disintegration will react upon the liver, bringing materials to it upon which its glyco-formative activity will act, with the result that hyperglycemia will be the consequence. Then two factors become united which, taken separately, would have had a most marked influence favorable to the development of pathogenic agents, and whose association easily explains the frequency and gravity of infections arising in diabetes. That sugar may be a favorable dressing in diabetic wounds is, therefore, still moot.

In all wounds two very important factors must be considered, namely, the bacterium and the soil. Antiseptic and aseptic dressings have for their object only the destruction of the microbe without taking the soil—the patient—into consideration. In the use of physiological salt solution and other conservative measures, the soil is not disregarded and the cells are placed in an excellent medium. With sugar dressings the cells are given nutriment so that the soil is all, the bacterium a secondary matter, if it be admitted that sugar favors its virulence, which is denied by many observers. So long as we do not know with certainty the means employed by Nature to overcome infection, such means can only be artificially imitated and the treatment of wounds will remain a moot question until more light is thrown on the subject, even in the advanced state of surgery of to-day and the experiences derived from war.—(*Med. Record,* July 24, 1920.)

A Case of Foreign Body in the Lung.

Lieutenant Worthington S. Russell, Medical Corps, U. S. N. R. F., reports this case:

Miss C., a nurse, age 29, on duty at the U. S. Naval Hospital, New York, gives the following history: About eleven years ago she was lying in bed endeavoring to remove a temporary dressing in a tooth by means of the pin of a barrette or bar pin, when she was seized with a sudden attack of sneezing. During the spasmodic inspiration the barrette was aspirated into the lung.

An *x*-ray examination made at the time showed the pin lodged in a bronchus of the right lung near the base.

A number of attempts were made to remove the pin by means of the bronchoscope, but they were unsuccessful, and the patient finally refused further attempts at removal, as the presence of the foreign body produced little trouble.

During the intervening years the nurse pursued her vocation without any discomfort from the presence of the pin.

May 22, 1918, while on duty at the hospital, she began to cough and raise a quantity of blood-stained mucus, and was referred to the *x*-ray department for examination.

The radiographs show a bar pin about 1¼ inches long and one-quarter of an inch wide, with the pin wide open, pointing upward, lying in a bronchus at the posterior and outer side of the base of the right lung. The patient states that the position has changed since the last plates were made—it lies nearer the base and the pin has opened further. There is no evidence of any pathologic change in the tissue about the pin; therefore, the conclusion is reached that the blood in the expectoration has its source in some other part of the respiratory tract.

Cases in which foreign bodies have been inhaled into the lungs are very common, particularly among children, and all kinds of objects have been found, including tacks, pins, nails, coins, buttons, pills, candy, beans, pieces of food, etc., but the writer has found no record of the aspiration of a pin of this character.

As in the present case, foreign bodies, if they pass into the lung, usually follow the right bronchus, owing to the fact that it is more nearly in line with the trachea than the left. Only 25 per cent. of foreign bodies pass into the bronchi, the greater number being arrested in the trachea or larynx.

Cases have been reported in which a foreign body has remained in the lung without giving trouble for a number of years, one case as long as sixty years, but these cases are rare. If the foreign body is not removed surgically it may be coughed up or it may result in necrosis of the cartilage of the bronchus with discharge through an external wound. If the body remains its presence causes serious pathologic changes, as ulceration or necrosis or infection may follow. If the body remains for a considerable length of time a fibrous capsule is formed about it.

The prognosis, unless the foreign body is removed, is unfavorable, as shown by von Brus, who reports a mortality of about 33 per cent. taken from all available statistics. The deeper the body lies in the lung, the greater the mortality.

This case is remarkable because of the length of time, now over thirteen years, during which the pin has been lodged in the lung without producing any apparent change in the tissue surrounding it. The patient is still following nursing and complains of no trouble from the presence of the pin.—(*Military Surgeon*, Sept., 1920.)

Case of Tumor of Mesentery.

J. K. Haworth, of Newcastle-on-Tyne, thinks this case sheds a little more light on the interesting and rare conditions of mesenteric tumor.

While doing duty as surgical specialist in India, a rifleman was sent to him, August 12th, 1917, with a lump in his abdomen. On examination he was found to have a tumor about the size of a large tangerine orange, situated in the right iliac region, below and to the right of the umbilicus; it felt hard and circumscribed, and it was movable all over the abdomen. He had no difficulty with his bowels, and apart from his tumor he felt fairly well. A diagnosis of mesenteric cyst was made.

The abdomen was opened by a vertical incision in the right semilunar line below the umbilicus over the tumor. A mass, yellow in color, was seen in the mesentery rather nearer to its posterior than anterior attachment. The cyst was in a favorable position with regard to vessels and was enucleated. The mesentery was sutured and abdomen closed; other enlarged glands in the mesentery were felt and the case was considered to be tuberculous in origin. On examination the tumor consisted of a thick firm homogeneous capsule containing semi-solid caseous material and débris, no signs of any hairs or material suggesting a dermoid. It was unilocular. There was no minute pathological examination of the wall or contents. Recovery was uneventful.

His case is almost identical with the cases reported by E. L. Pierce Gould (*Brit. Jour. Surg.*, vol. ii., No. 9), except that he was able to make out other glands in the mesentery; this fact adds weight to Pearce Gould's supposition that these conditions are tuberculous in origin.—(*Lancet*, June 12, 1920.)

Post-Operative Treatment of Fistula-in Ano: With Special Reference to the Use of Gutta Percha Tissue.

Alfred J. Zobel, of San Francisco, quoted that the essential difference between the general surgeon and the surgical specialist is the careful attention to detail which the latter gives to everything within the scope of his particular field of endeavor at the recent meeting of the American Proctologic Society.

Watching the work of some of the better general surgeons, he has been struck by the fact, that in their rectal work, the operation itself seemed to be the only thing of importance. The post operative treatment, particularly, appeared to be of very little consequence to them, and was often left entirely to the interne or the nurse; this accounts for a great part of the large percentage of failures which follow fistula operation as shown by hospital statistics.

The writer described his way of treating fistula cases, following operation. The wounds are first lightly, yet firmly, packed with strips of iodoform gauze which has been thoroughly vaselined, which are left in for 24 hours only. After this, strips of gutta percha tissue alone are used, over which moist boric acid compresses are applied frequently, then oiled-silk, then a dry outside pad, and the dressing is complete. Reasons for using the vaselined gauze, and the hot moist compresses, are given.

The writer further stated that the gutta percha tissue dressing allows free drainage along the sides; easily keeps the skin edges separated; does not press upon, nor injure in any way delicate granulations; does not retard healing; does not cling to raw surfaces; is easily replaced by the nurse, without fear of doing damage, should it come away when the dressings are renewed; and, most important, is removed without causing pain.

Polyneuritis After Injuries.

In the meagre literature on inflammation of the nerves after injuries special value has been placed upon the answer to the question whether an injury without an open wound or wound infection can give rise to a polyneuritis. Leppmann reviews cases in the literature (*Zeitschr. f. d. ges. Neur. u. Psych.*, July 11, 1919) and describes a series of cases observed by him which were of a nature to furnish an answer to this question. He comes to the following conclusions: It has never been proved or shown to be probable that an extensive inflammation of the nerves can be caused by a bloodless injury, or one which has not been infected. General inflammation of the nerves as result of infection of wounds is met with. In a great number of cases of this sort, however, it is more probable that the infection is due to diphtheria. In their course these cases resemble diphtheretic paralysis; there is transitory disturbance of the muscles of the eye, followed later by ataxic paresis of the legs, and there is also rather sudden disappearance of the symptoms. The member which has been injured may be affected by the paralysis, but is not always so affected. There are cases of polyneuritis also which result from suppurating infections. The course of all these cases in past experience has, for the most part, been favorable, but in a case of Landry's paralysis observed by the author, there was not complete recovery after nearly a year and a quarter.—(*Jour. Ner. & Ment. Dis.*, Sept., 1920.)

Pre-Operative Treatment in Rectal Surgery.

At the recent meeting of the American Proctologic Society William H. Stauffer, of St. Louis, said that a complete history should be obtained by the physician in charge of the patient. Group diagnosis should be utilized if possible, each member of the group summarizing his findings, and then all conferring together and deciding on a definite line of treatment and the prognosis stated.

Unless acute conditions demand immediate attention, all individual factors of the patient should be considered before interference. The respiratory and circulatory, the genito-urinary, the reproductive, and the alimentary systems should be examined and constitutional diseases and local abnormalities, palliated or removed, and ample time taken therefor, and not postponed till just before the rectal operation. Specifically, among other things, he said that cathartics are not advisable in most cases, but proper dietetic measures, rectal irrigations and colonic flushings used as a preventative of gas pains and surgical shock; as much local infection as possible removed and the operative field rendered as nearly sterile as possible; and shaving the parts left to the discretion of the operator.

In no department of surgery is proper pre-operative preparation of the patient more important, or his general well being better saved by such care, than in the treatment of conditions of the lower bowel.

The Recto-Vaginal Septum in Proctology.

At the recent meeting of the American Proctologic Society Descum C. McKenney, of Buafflo, N. Y., made a plea for the more careful examination of the ano-recto-vaginal septum by the proctologist, and of the rectum by the genecologist, so that rectal disease and damaged septum, when associated, may receive at one and the same time, when possible, the necessary surgical attention. He described the anatomy and functions of the levator ani muscle, the pelvic fascia and other important structures which form the septum, the rectocele, and other pathological results of damage to those structures, and the interference with the performance and regularity of defecation and other symptoms which result from the damage.

In reference to the treatment, he considered the association of damaged septum with rectal pathology, as hemorrhoids and fistula, with vaginal pathology, as lacerated cervix and cystocele, and summarized the principles of septal repair as: the separation and elevation of the posterior vaginal mucous membrane from the rectum as far up as the cul de sac, if necessary; the infolding of the rectal wall and the maintenance of it in this position by bringing together above the fold the recto-vaginal layer of pelvic fascia; the formation of a new perineal body by bringing together from either side the edges of the levator ani muscle, and other immediately associated structures; the obliteration of all dead space; the trimming away of redundant vaginal mucous membrane, and the closure of the wound.

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A Disquieting Phase of Group Psychopathology.

Lord Northcliffe's belated declaration that the wartime atrocity stories affirming the crucifixion of living men and the cutting off of the hands of children were false will surprise nobody above the imbecile grade.

Just the same there is no doubt about the capacity for brutality existing in some people. Men have been burned alive in America and subjected to other forms of mob violence in connection with the lovely activities of lynching parties, and the whipping of convicts in prison camps is in some places legalized.

It has long seemed to us that the revelation during wartime of the presence among us of large numbers of people capable of spinning yarns about imagined brutalities of most sickening character, and the zest with which such wretches were listened to by vast groups of people, was cause for serious apprehensions. Surely beastly potentialities lurk in the souls (?) of such gentry. In the light of Freud's teachings these individuals' telling of or absorption in gruesome tales represented attempts in the direction of wish fulfilment.

And so far as we know these offenders are by no means ashamed of themselves, which is a very bad sign, as showing their essentially vicious and unregenerate character. We are told that the German people show absolutely no signs of penitence for their part in precipitating the war, but what about the failure to repent of our contemptible talemongers and the morons who listened to them with patience and with chap-licking zest.

Our Calumniators.

It seems to be taken now for granted in certain quarters that in resisting certain attempted legislative encroachments upon their rights as practitioners the members of the medical profession are necessarily actuated by economic considerations in the main. While we are perfectly willing to concede the force of such considerations, we dissent utterly from the ascription of wholly sordid motives to those of us who are protecting ourselves and the public health against the indecencies and dangers that certain nuisances seem bent to put upon us.

There is a large element of pure malice in this kind of slander. What other class in our commonwealth sacrificed itself more in the late war than the medical profession, from which sacrifice many medical men are still suffering severely?

We have proven the stuff of which we are made. Our record disposes of vile calumnies. Our accusers merely betray their own base psychology. Thoroughly sordid themselves, they can discern no decency in others. Their own sordidness is confirmed who would debase us through socialization.

Beer and the Worker.

The unrest of the American worker appears to be due, in part, to his deprivation of beer. No longer narcotized by it, he is more alive mentally, as the world of capital has discovered to its cost, and fit for stratagems and spoils.

The fall in production also seems to be more or less of a consequence of the deprivation of beer. Doubtless increased production was looked for as a result of prohibition, but it is now being revealed that narcotization enabled the exploiters of labor to exact the full pound of flesh.

It must also be borne in mind that while the worker has been transformed into a being quite strange and discomfiting to the capitalist, the latter has not changed at all with respect to his use of alcohol. The home of the employer of labor is well stocked, and the stock is drawn upon in the old way.

In other words, the capitalist's continued bondage to alcohol is not aiding him in his struggle with labor. He could deal with narcotized workers in the old days, despite his own alcoholism, and in fact the drug then aided him, for it deadened his sense of justice. Nowadays this alcoholized captain of industry has to deal with comparatively sober workers, and it is proving very hard on him, to say the least.

Prohibition has indeed accomplished vast results, but not exactly of the kind expected.

Disease and the Race.

The first bacteria are supposed to have been rock builders—that is, their function was to withdraw calcium from sea water. It is an analogous type which to-day builds up the coral reefs.

Dr. Charles Walcott has found bacteria, fossilized, in the oldest rocks of North America. Renault, in France, has found them in coal.

Bacteria are supposed to have been carried from other planets by meteorites and to have been associated in some way with the initiation of life on the earth.

The most ancient of germs were micrococci, but they were not pathogenic. The earliest animals were not subject to infectious disease. There is no evidence

of there having been infected wounds until after the great Coal Period. Even then disease was not common, because of the high degree of natural immunity possessed by young and vigorous species. Death was usually the result of a struggle for life or an accident. Old age and disease were late arrivals.

Disease is believed to have played an active part in the history of animals, including man, only during the last quarter of the earth's history. It is a feature of relatively recent times and was "a minor and unimportant factor for millions of years."

Man is supposed to have acquired some of his diseases in the earliest instances from the animals which, like himself, lived in caves, such as the bear family.

As the race weakened, immunity had to be acquired in larger measure, in order to insure some success in the battle against the evil forces of nature. Survival depended upon the development of special defensive mechanisms, and now man has been obliged to begin supplementing nature artificially in order to keep the race going for a while longer.

For a while longer—during which time some of our biological pessimists expect us to lose our teeth, our hair, our sense of smell, and some of our powers of locomotion.

But even that race of decaying gnomes that is to be will doubtless sing of love and beauty and achievement. But do not commiserate too deeply with posterity, for there is tragedy and farce enough in our present predicament. Has not the Life Extension Institute declared nearly everybody to be defective on the score of health? That is tragedy enough. And is there not farce enough for the gods and men in the advertisements of that institute?

Yearly Index.

Subscribers and advertisers desiring to procure the yearly index of contents, which it has been our custom to issue with the December number, will kindly notify the publishers. On account of the very great increase in the cost of white paper and printing, the index will not be bound in that issue as heretofore, but will be supplied separately on demand at no expense.

A New Departure.

"I seldom see a ray of sunshine in the average medical journal; every line is so strictly business." Thus wrote a well-known physician to the editor of a medical journal not long ago.

In the belief that some of the profession may enjoy something a little different, the MEDICAL TIMES is beginning the publication in this issue of a story which we trust will give the needed "ray of sunshine" to the pages of this journal.

The author, Dr. Harold Hays, of New York, is a well-known laryngologist and author and one of our contributing editors. His contributions to the MEDICAL TIMES have been extensive and of great practical value and it is the belief of the editors that his story will prove of interest and profit to the readers.

It is a pleasure to adopt this novel idea and it may be that other medical publications will be able to develop short-story writers among their editorial staffs, so that medical readers will not complain of the deadly dullness of the average professional journal.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

High-brow Medicine.

CONDUCTED BY ARTHUR C. JACOBSON, M.D.

Dr. Frederick Peterson, in the *Journal of the American Medical Association* of August 7, points out that the medical student of today must be an "invincible athlete" to compass the complicated and vast material that makes up the college curriculum, and puts into Whitmanesque free verse a prospectus of what a student is expected to acquire during his first year of clinical work in one of our leading American colleges in the way of technic in special and instrumental methods of examination. The syllabus has been commented upon by Sir James Mackenzie as follows:

These are the "subjects recommended in one school for the student's study during three half-day exercises per week for six months. When it is understood that even the specialists who employ these methods have only an imperfect knowledge of the meaning of the signs which their method brings to light, the practical benefit to the student can be inferred. I need not dwell on the state of the student's mind at the end of a six months' course of this kind of instruction, especially when this subject is probably but one of several others pursued in the same spirit."

Dr. Peterson remarks that Sir James is concerned with the effects on the *student* of this wandering in a maze of technic and mechanical systems. But his own query is, what does the *patient* get out of it—the patient who comes to the practitioner so trained for help and relief from suffering? Would the patient, he asks, who ran the gauntlet of all this formidable array of diagnostic mechanisms (and survived the diagnosis) be in the end any better off, or as well off, as if he trusted himself to some good old-fashioned sensible country doctor?

A patient who had had most of these tests tried on him told Dr. Peterson that his experience was most impressive. This patient was asked what had been done for him as a result of these labors, and he replied that he was given rhubarb and soda. He remarked to the prescriber that that was just what his doctor in Skaneateles had given him long ago, but the former said it was not rationalized, not scientific. The patient then replied that rationalized rhubarb was having a wonderful cathartic effect upon his pocket book.

There is no doubt, says Dr. Peterson, that ultimate good will result from all this effort at scientific precision. "It is the road of progress. But this work is still mostly for the seekers after truth, the research men of our institutes and laboratories; the medical student and practitioner should not be so overwhelmed with mechanics and half truths that they lose the power of close clinical observation, the power of giving every possible relief to the sick people out in the world who are their care."

We reproduce Dr. Peterson's extremely amusing poem herewith:

PROSPECTUS FOR A FIRST YEAR OF CLINICAL MEDICINE

(After Walt Whitman)

O Neophyte in medicine
In thy first year
Acquire roentgenoscopy,
And roentgenography
And be fascinated
By the simplicity of teleroentgenography
As applied to head, thorax, abdomen
And all the bones and members;
In the clinical laboratory
And secretory analyses,
Whence we proceed to proctoscopy
And rectosigmoidoscopy,
And urogenital methodology,
With urethroscopy, cystoscopy,
Ureteral catheterization
And pyelography.
Grow competent in neurology
By accurate tests, cutaneous,
Deep, gustatory, olfactory,
Acoustic, vestibular, visual,

Learn microscopy and chemistry;
In the bacteriological laboratory
Learn to collect materials,
Diagnosticate by lens and culture,
By inoculation of animals,
By virulence tests.
Seize the doctrines of immunology
And study agglutinins, bacteriolysins,
Hemolysins, precipitins, opsonins and ergins.
Emphasize Widal and Wassermann,
Schick and tuberculin.
Next absorb rhinoscopy,
Pharyngoscopy, laryngoscopy,
Paranasal transillumination,
Demonstrate the bronchoscope
And puncture the pleura.
Learn speedily sphygmography,
Cardiography, phonocardiography,
Electrocardiography, tonometry
And sphygmomanometry,
And upon these superimpose
Clinical angiological methodology.
Do not neglect odontology,
Paradental infection,
Pyorrhea alveolaris,
The cognoscibility
Of roentgenograms,
Of dental films,
And if possible oesophagoscopy.
Fail not to practice gastric intubation
With test and contrast meals
And contrast enemas
With proper serial survey
By roentgenography.
It takes but little time
To know the pancreas
By service of the duodenal pump
Motor, reflex, co-ordinative,
Tests of the speech and writing,
Sphincters, and trophic functions,
Adding to this anthropometry,
Lumber puncture, electrodiagnosis,
And nervous architectonics.
Pay attention to consciousness
Of the patient as a whole,
Not forgetting attention,
Perception, identification,
Diction, feelings, moods,
Emotions and conative functions
Judged by behavior and conduct.
Then learn how indispensable
For diagnosis and therapy
Are studies of metabolism.
Seize the doctrine of balances;
Make preliminary tests
Of assimilation, digestion, absorption,
Then determine the metabolism
Of proteins, nucleins, purins,
Carbohydrates, fats, water,
Mineral substances and vitamins,
And learn direct and indirect calorimetry.
These are only preliminary to the study
Of several amino-acid diatheses
Of diabetes mellitus and gout.
Thus prepared, O Neophyte, finally approach
The endocrine glands
By pharmacodynamics,
Tests with epinephrin, atropin, pilocarpin,
Till endocrinopathies are laid bare.
These simple points are but an item
For first year students who recite 'em.
Next year add more—ad infinitum!

Public Health

Long Island College Gives Course in Industrial Health.

Dr. H. Sheridan Baketel, Professor of Preventive Medicine and Hygiene in Long Island College Hospital, has sent a circular to the medical profession of Brooklyn, announcing the establishment in his department of a course in industrial health to be given by Dr. Alfred Edward Shipley, formerly secretary of the Board of Health of the City of New York, and inviting all practitioners to be present.

This course supplements the courses in general hygiene given by Dr. Baketel and Dr. Gleason C. Lake, of the Public Health Service, and the course in preventive medicine by Assistant Prof. Edward H. Marsh, of the New York State Board of Health.

Dr. Shipley's lectures include the following topics:

I.—General Considerations
- 1—The Development and Principal Phases of Industrial Health
  - a—Industrial surgery—current and preventive
  - b—Industrial medicine—current and preventive
  - c—Industrial sanitation and hygiene—preventive
- 2—Relation of Industrial Health to
  - a—General medicine and surgery
  - b—Private and hospital practice
  - c—Other phases of public health—Federal, State and Municipal Health Departments Community health
- 3—Character of Industries

II.—Industrial Surgery
- 1—Emergency and Current
  - a—Clinical facilities
  - b—First aid features
  - c—Hospital cases
  - d—Description of types of injuries met
  - e—Shock, fractures, burns, etc.
- 2—Prevention and Rehabilitation
  - a—Education of the workers
  - b—Necessity of prompt treatment
  - c—Prevention of infections
  - d—Discovery of hernia, flat foot, etc.
  - e—Fitting the injured man to his job
  - f—War vs. industrial rehabilitation

III.—Industrial Medicine
- 1—Emergency and Current
  - a—Types of diseases met; description
  - b—Male vs. female workers
  - c—Sick absentees; follow-up
  - d—Co-operation with family physicians
- 2—Prevention
  - a—Physical examination of new employees
  - b—Physical examination of old employees Type of examination; description, practical; according to nature of industry
  - c—Description of various diseases; their relation to industry and production; their treatment

IV. and V.—Industrial Sanitation and Hygiene
- 1—The Environment of the Worker
  - a—General factory surroundings
  - b—Factory and workroom conditions
- 2—The Effect Upon the Worker

VI.—Infectious Diseases in Factories
- 1—Relation of Industry to
  - a—Acute respiratory affections—Colds; tonsillitis; influenza; pneumonia, etc.
  - b—The acute exanthemata—Scarlet fever; mumps; erysipelas, etc.
  - c—Venereal diseases
  - d—Tuberculosis
  - e—Miscellaneous infectious diseases—Typhoid, etc.
- 2—Methods of Control

VII. and VIII.—Health Hazards in Industries
- 1—Description of Various Hazards
  - a—Dusty trades—metallic; mineral; fibrous, etc.
  - b—Toxic gases, vapors, and fumes; acids; chemicals, etc.
  - c—Poisons—arsenic; lead; mercury; phosphorus; zinc; chemicals, etc.
- 2—Prevention of Hazards

IX.—Accidents and Their Prevention
- 1—Types of Hazards
- 2—Prevention of Accidents
- 3—Workmen's Compensation Laws

X.—Morbidity and Mortality Statistics
- 1—By Occupation
- 2—By Diseases

XI.—Health Work and Its Relation to Other Industrial Activities
- 1—To Employment Department
  - a—Physical qualifications of new workers
  - b—Mental tests
  - c—General absence vs. sickness absence
- 2—To Engineering Department—Safety Work
- 3—To Educational Features
- 4—To General Employee Service
- 5—To Home and Social Habits
- 6—Health Laws—Federal, State, and Municipal

XII.—Administrative Features
- 1—Organizing a Health Service
- 2—Duties of the Staff
  - a—Personnel—Physicians, Sanitarians, Dentists, Nurses, Nurses' Assistants, Clerks
  - b—Equipment
  - c—Supplies
- 3—Records and Reports
- 4—Cost of Service
  - a—Making estimates
  - b—Unit costs

Practical Demonstrations

I. Inspection of a Hat Manufacturing Establishment
II. Inspection of a Chocolate Manufacturing Establishment
III. Inspect[illegible] of a Paint or Rubber Manufacturing Plant
IV. Inspectic[illegible] of a Municipal Occupational Disease Clinic

Compensation of Health Officers.

If health officers are to be adequately rewarded for the duties and responsibilities resting upon them, the education of the public with regard to the meaning of thorough public health work must be accelerated, according to Dr. John A. Ferrell

of the International Health Board, Rockefeller Foundation, New York City.

In a survey reported in the July issue of the *American Journal of Public Health*, in State health work the compensation scale for the chief executive officers of health for the year 1919 ranged from $1,000 in Arizona to $10,000 in Pennsylvania. In the United States Public Health Service compensation of commissioned officers has recently been advanced from 15 to 30 per cent. In city health work, likewise, schedules have increased and numerous vacancies are announced in city health work and among private health agencies at salaries ranging from $2,500 to $7,500 per year. Although the compensation schedule for health officers has been too low, it has been steadily increasing year by year for the past ten years. The present shortage of qualified men indicates that the compensation schedule will continue to advance.

The association of health officers should give direction to the movement, which has already gained tremendous momentum, by keeping the public informed regarding achievements in the prevention and control of disease, by interesting in special training those medical students, medical interns, and other persons who can be used in the work, and by giving guidance and support to institutions which are offering creditable courses in public health.—(*Mod. Med.*)

Report of Work for the Handicapped.

A report of three years of work for handicapped men by the Institute of Crippled and Disabled Men of New York City has just been published. This report gives a brief summary of the work of the Institute, including its medical work and the different kinds of vocational training offered by the Institute. The Institute has had considerable experience in rehabilitation and the report of its three years' pioneer work should be read by all who are interested in this new humanitarian work. The Institute has not limited its activities to vocational education, but has taken the word "Rehabiliation" to mean "The use of suitable means for rendering a disabled person again fit to earn his living.'

The Campaign Against Infant Mortality.

The campaign against infant mortality which began in France with the establishment of the first *gouttes de lait* twenty years ago has broadened out to include a comprehensive program of health supervision which extends from before birth to the date of entrance into school.

From the organization of the American Association for Study and Prevention of Infant Mortality in 1909, the "milk station" rapidly developed into the "babies' dispensary"—its objective being the systematic supervision of the health of the infant and the instruction of the mother in the essentials of infant hygiene, with the public health nurse as a home visitor supplementing the more formal teaching of the clinic itself. The results attained by this kind of health education have been almost spectacular in nature,—the reduction in a period of thirty years of the infant mortality rate of New York City from 227 deaths under one year per one thousand births to 92 deaths per one thousand births being only an extreme instance out of hundreds of similar ones which might be cited.

During the last few years, however, we have realized that the brilliant success which has been achieved in the reduction of infant mortality was limited to certain causes of death, while other factors in the infant death rates have remained untouched. In almost any series of mortality rates a high infant mortality rate always implies a high incidence of diarrhea and enteritis. Heredity, prenatal care, poverty—all are important factors. Education plays an important rôle. The data cited below from a recent report of the United States Census on Mortality Statistics for 1918 bring out with clearness the contrast between our successes and failures.

A STUDY IN INFANT MORTALITY.

Infant Deaths from Certain Causes per 1,000 Population Under One Year of Age, United States Registration Area.

	1910	1911	1912	1913	1914	1915	1916	1917	1918
Diarrhea and Enteritis	37.7	29.0	26.2	28.1	24.7	22.6	24.1	23.2	22.2
Malnutrition	6.6	6.4	6.5	6.8	7.3	6.9	7.5	7.5	7.5
Premature Birth	17.5	18.4	19.1	20.0	20.1	20.3	21.2	21.1	22.1
Congenital Debility	18.2	14.6	15.0	15.5	13.4	11.9	10.3	9.4	10.1
Injuries at Birth	2.2	3.7	3.7	3.9	4.2	4.3	4.4	4.6	3.9
Sum of Above	40.5	43.1	44.3	46.2	45.0	43.4	43.4	43.6	43.6

The death rate from diarrhea and enteritis has been reduced from an average of 31.0 for 1910-12 to an average of 23.2 for 1916-18, a saving of 7.8 lives per one thousand. On the other hand, the combined death rate from malnutrition, premature birth, congenital debility, and injuries at birth, has increased from an average of 42.6 for 1910-12 to an average of 43.2 for 1916-18. The intestinal disorders, which prevail for the most part from the third month of life, are yielding to preventive measures but the causes of mortality which operate at birth and during the first month have continued to operate unchecked.

It is this fact which has made it clear that the machinery of medical examination and hygienic supervision must be extended backward to include the expectant mother, and the experience of the prenatal clinics in Boston and New York have shown that the mortality of the first month is quite as amenable to preventive measures as that of the later months of infant life. The ratio of still births to living births has been reduced in Boston to 1.0 per cent. for cases with prenatal care, as compared with 3.4 per cent. for the population as a whole; and the mortality of infants in the first two weeks of life has been reduced to 11.9 per cent. as compared with 34.2 per cent. for the population as a whole.

In order to cope with the broader problems of the present and future campaigns against infant mortality, the Association for Study and Prevention of Infant Mortality has changed its name to the American Child Hygiene Association and, under the able presidency of Dr. Philip Van Ingen, is entering upon a corresponding extended field of service. In June it issued the first number of a new monthly magazine, *Mother and Child*, which we welcome most heartily to the ranks of public health journalism. This first issue contains papers of great value by Sir Arthur Newsholme and Dr. F. L. Adair on the development of prenatal work in England and France, and a discussion by Dr. R. D. Curtis of the supervision of that neglected twilight zone of childhood, the "pre-school" age. In the same batch of mail which brought tis new journal is Bulletin Number 69 of the Children's Bureau on "The Child Welfare Special," describing the latest technic in reaching the rural mother and child by means of a child welfare motor truck and a pamphlet issued by the Association for Improving the Condition of the Poor of New York City, entitled "Developing Child Health Via Community Organization," which outlines the admirable program carried out in two selected tenement districts for prenatal care of the expectant mother, and for the examination and supervision of the child of pre-school age.

We stand on the threshold of a new era in child hygiene; and we may confidently look forward to the development within the next few years of a complete and co-ordinated program of medical supervision and health education, which shall begin with the unborn babe and shall end only when the child passes from school into the world of practical achievement, with the fullest perfection of development and the fullest reserve of physical health and power within the possibilities of its inherited capacity.—(*Mod. Med.*, Sept., 1920.)

Anemia and Life Insurance.

Giffin, of Rochester, reaches these conclusions:

1. The increase in the incidence of pernicious anemia makes it advisable to consider this disease separately in mortality statistics, rather than to include it among anemias in general.

2. Medical examiners should be required to report a hemoglobin estimation of each applicant (the use of a simple scale would be sufficient). Blood smears forwarded to the laboratory of the central offices by examining physicians would be of great assistance in eliminating for insurance applicants with pernicious anemia and leucemia.

3. The refusal of all applicants with anemia without a definite understanding concerning the possibility of later reapplication and acceptance may be a serious injustice to the individual.

4. Applicants with anemia from chronic recurrent hemorrhage, anemia from insufficiencies of diet, or as a result of functional dysphagia, may be expected to recover within one year at most after proper treatment, and should be given the privilege of reapplication at a subsequent time.

5. Applicants who have had splenectomy for splenic anemia, provided cirrhosis of the liver, gall-bladder disease, and thrombosis of splenic vessels are not present, might be considered acceptable risks for term insurance after having been well for five years following operation.

6. Applicants who have recovered following splenectomy for hemolytic jaundice may safely be considered for a more liberal form of policy if they have remained well for five years. —(*N. Y. Med. J.*, Sept. 11, 1920.)

The Schick Test

1 The Schick test appears to be of definite value in detecting diphtheria susceptibles, and as such has many possible applications.

2. It is easy to perform and free from any danger.

3. A reliable toxin and careful technique are essential.

4. Once the differences between a positive and a pseudo-reaction are appreciated reading is easy, but if there is any doubt controls of heated toxin should be used.

5. The best times for readings are 24 hours, 3 days, and 10 days after the test.—(*Lancet.*)

Diagnosis and Treatment

A Case of Combined Aortic and Mitral Regurgitation.

W. Gordon, of Exeter, reports a case which lasted over 30 years.

THE CASE DESCRIBED.

K. E., aged 24, a very intelligent girl, came under his care in January, 1891, with aortic and mitral regurgitation. Her heart disease dated, she said, from a severe attack of rheumatic fever two and a half years previously, which, together with a relapse, kept her in bed for 15 weeks. This had been her only attack of rheumatism, and it remained so.

On March 10, 1892, she went to hospital with a bad gastric attack following "a cold." Her heart's apex beat was then noted to be in the fifth intercostal space in the left mammary line; there was a well-marked aortic regurgitant murmur, and a well-marked mitral regurgitant murmur conducted backwards towards the axilla; the lungs and kidneys were normal; she had slight œdema of the ankles. On May 11 she was made an out-patient again, and as such remained under his care for several years on and off; later, having improved in general condition, she was only seen at very long intervals until her final illness at the end of 1918.

On January 22, 1908, Gordon made this note: "There is still the same tight gripping pain, palpitation and dyspnea, with occasional faintness, but not worse than 15 years ago." The pulse was 72, not "water-hammer." The apex beat was in the sixth space, 1 inch outside the left mammary line; the right edge of the cardiac dullness was at the right edge of the sternum; at the apex a systolic as well as diastolic murmur was audible, at the aortic cartilage a diastolic murmur only; the second sound was nowhere accentuated; all these points were observed in the erect position. It was just prior to this date she had strained her heart in nursing her uncle, an old and heavy man.

On April 4, 1910, she was "much better" than in 1908. Her pulse was 80, very little "water-hammer" in character, but now there was some visible arterial pulsation in the neck up to the ears. She had palpitation "pretty often," but pain was only brough on by exertion. The heart was evidently a little larger; the dullness in the erect position reached rightwards 1½ inches, and leftwards 4½ inches from the midsternal line, the apex beat still being in the sixth space; the diastolic murmur was heard over the aortic cartilage, down the sternum, and at the apex, as before.

In December, 1918, Gordon was called to her late one night, when he found her desperately ill, cyanosed, and fighting for breath, with a greatly dilated and hypertrophied heart acting tumultuously. She refused to go into hospital, and in January she died.

Points to which Gordon draws attention are, that the case was uncomplicatedly rheumatic, dating from her single attack of acute rheumatism at 22; that she was otherwise healthy, with no lung or kidney complications; that, for the most part, her work was free from physical strain; that she successfully avoided further rheumatism; that the degree of aortic regurgitation was probably slight for a good many years, since "water-hammer" pulse and pulsation in the neck were absent for that time (remembering, however, the influence of coincident mitral regurgitation in modifying the pulse); that præcordial pain, palpitation, and dyspnea on exertion, with occasional faintness, were present almost throughout; and that so long as 11 years before her death the apex beat, in the erect position, was already in the sixth space, and 1 inch outside the left mammary line.—(*Lancet*, April 10, 1920.)

The Virulence of the Pneumococcus

The pneumococci were properly classified from the time they were found in all typical cases of pneumonia. Besides the complications of pneumonia, this bacterium produces morbid processes of the serosa and lives as a saprophyte on the mucosa of healthy subjects and animals. Four characters are fundamental and constant: the absence of spores, staining with Gram, a capsule, and immobility. There are others more special, but these may be wanting: the lanceolate shape, the scant and fragile growth on ordinary media, solubility in bile, action on hemoglobin, and a decreasing pathogenic power in mice, rabbits, guinea pigs, and birds. The criterion of agglutination is of little value in identifying this organism. Virulence may be defined as vegetability *in vivo*, and must be distinguished from the toxigenous power, with which it is not necessarily associated. The intensity of experimental infection expresses the relationship between the germs and the resistance of the animal; the virulence is, therefore, estimated by the intensity of the infection and the resistance, necessarily unknown, but supposed to be constant. Only infections of the same clinical type should be compared with each other and, all other conditions being equal, the virulence is estimated by the dose administered and the length of survival. A rigorous estimate of the virulence can be obtained only from bacteria which have never passed through animals. The method of direct inoculation of pathological products should be rejected.

The pneumococcus of pneumonia patients possesses a very unequal activity in respect to mice, and the sensibility of this animal has been exaggerated. The pneumococcus is rarely virulent in the rabbit, but exceptionally it may be very virulent. Pneumococci which are very active for the rabbit will be the same for mice, but when mildly active for the rabbit the activity will vary in mice. A minority of pneumococci killing a mouse will kill a rabbit. A very active pneumococcus for mice may be little so for the rabbit, and when mildly active for mice they are generally inactive in the rabbit. Human pneumococci are only exceptionally virulent in the guinea pig, and this virulence always remains weak. Pneumococci active for the guinea pig are always very active in mice and rabbits; the inverse is not true. Virulent cultures of pneumococci are often scant, fragile, and soluble in bile, and although the latter is inconstant, it is an excellent indication of the species and the virulence, when it exists. The majority of pneumococci active in the rabbit—and *a fortiori* when active in the guinea pig—are soluble. The inverse is not true. Pneumococci inactive in mice are insoluble; those which are moderately or very active are soluble; when very mildly active the organism may or may not be soluble. The solubility in bile may vary in the same sample, in which case the strain is mildly or slightly active for the mouse. Very active pneumococci usually retain their virulence and solubility; but the latter may disappear, yet the virulence remains. There is no necessary relationship between the gravity of the pneumonia and the virulence of the pneumococcus. Even if the risistance of man were known, the virulence of human beings would remain an unknown quantity. The number of pneumococci with which a given case of pneumonia has to deal is unknown, while the relative rarity of the germ in the blood of these patients and the importance of the pulmonary lesions remove human pneumonia from comparison with experimental and true septicemias in mice, which are very exceptional in man. The blood contains few pneumococci in cases of pneumonia, and chiefly when extra-pulmonary complications arise.

Cultures of the pneumococcus on physiological gelatine kept in the icebox will retain their vitality for several years, and their activity for mice for several months. Cultures kept in this way and restabbed monthly will usually retain their full virulence for mice. Only a minority of the germs oscillate around a virulence. Sometimes this oscillation can be followed—a disappearance and reappearance of the virulence taking place. A study of numerous passages through three species of animals shows that very active pneumococci for mice—their virulence is always stable for this animal—and very active pneumococci having a stable virulence for the rabbit remain the same during their passage through the three species. Pneumococci little active for mice, or at the limit for the rabbit and guinea pig, cease to progress by passage through animals. Pneumococci little virulent for the guinea pig never increase in virulence, no matter which species of animal is used for passages. Pneumococci which are very active for the rabbit, but with a fragile virulence, will, according to the species used for passages, more or less completely recover the activity they possessed when taken from the human organism and which had rapidly decreased.—(*Med. Record*, July 24, 1920.)

The Diagnosis, Prognosis and Treatment of Nephritis

It has been somewhat of a reproach to medicine that until recently the investigation of surgical diseases of the kidneys has been more scientific, more efficient, and more practical than that of the strictly medical diseases of these organs, with the result that surgical diagnosis and treatment have been more satisfactory and more successful. This has been largely due to the fact that tests for renal efficiency have been developed by surgical urologists for the express purpose of differentiating bilateral from unilateral disease, and for determining the affected side in the latter case and the efficiency of the remaining kidney. On the medical side much attention has been paid to the quantity and composition of the urine and the presence of albumin and casts, but it is only recently that the question of renal efficiency has been investigated in these cases. Much useful work has now been done on these lines which has not yet reached the text-books, and being still only to be found in monographs and papers in various medical journals, it remains outside the ordinary routine of medical procedure. Dr. H. MacLean and Dr. A. E. Russell give a review of some reliable methods for investigation of the various aspects of the renal functions, but also contains practical and explicit details of their application and use. Incidentally it affords most valu-

able data in regard to diagnosis, prognosis, and treatment, which should be of the greatest help to the practitioner.

At the outset MacLean and Russell point out that the specific functions of the kidneys known to physiology comprise three different processes—the elimination of the waste nitrogenous products of metabolism, the removal of acid products, and the maintenance of the necessary concentration of salts in the fluids and tissues of the body. It is a point of great interest to note that these functions are variously involved in the different forms of nephritis. In severe cases of chronic interstitial nephritis there is a definite retention of nitrogenous waste products in the blood, with a diminution of the acid-excreting function. On the other hand, in parenchymatous nephritis there is no evidence of any retention of nitrogenous bodies in the blood or of any failure in acid elimination, but there is usually inability to excrete the normal amount of salt. The bearing of these observations upon the clinical and chemical phenomena of the two varieties of nephritis is developed clearly by the authors. The retention of urea and other nitrogenous products in the blood due to defective elimination in cases of chronic interstitial nephritis can easily be demonstrated, and the urea in the blood estimated. The absence of any defect in the function of the kidney dealing with salt explains the practical absence of œdema in this form of nephritis. In parenchymatous nephritis, on the other hand, the chief difficulty appears to be in the excretion of the necessary amount of salt, and as an inevitable result there is a retention of water leading to œdema, which, together with albuminuria, is the characteristic feature of this form of the disease.

In the investigation of cases the authors recommend the use of salicyl-sulphonic acid as the best and simplest test for protein in the urine. They give directions for the examination of casts, but point out that the variations they show are not necessarily of much value in assessing the degree of renal inefficiency. For this purpose they bring forward three tests—the estimation of urea in the blood, to which reference has already been made; the new "urea concentration test" of MacLean and de Wesselow; and the estimation of the diastatic activity of urine, often referred to as the urinary diastase test. The second of these is strongly recommended by the writers of the paper on account of its simplicity and reliability, and since it has been used in nearly 3,000 cases their opinion must necessarily be of great weight. The test involves no more complicated procedure than the administration of 15 g. of urea dissolved in about 100 c.cm. of flavored water, and the estimation of the urea in samples of urine passed one hour, two hours, and occasionally three hours afterwards. Obviously it does not demand either much time or a difficult technique, and it can easily be made a routine procedure in the investigation of cases of renal disease where necessary. The diastase test also involves no very difficult procedure, but to be accurate requires a sample of the 24 hours' urine. MacLean and Russell find a combination of the three tests very useful.

As affording some definite measure of renal efficiency, and indicating which of the kidney functions are involved, these tests afford valuable aid in prognosis and in treatment; it is not too much to hope that when the methods have been more widely applied and more fully developed some progress will be made towards a scientific classification of cases of nephritis, for those at present current are partly clinical, partly pathological, and all admittedly unsatisfactory. MacLean and Russell give the normal figures obtained with the three tests they recommend, and indicate the departures therefrom which are to be regarded as of grave significance. They state that only one-fourth to one-sixth of the total kidney substance is really necessary to carry out the body needs, and, further, that it is only when the kidney efficiency is reduced to one-fourth or less of its original value that there is any tendency for urea to be retained in excess in the blood. In the light of their researches they have also examined the recent suggestion of Epstein to give a liberal protein diet to cases of parenchymatous nephritis with marked dropsy. They have found that the disappearance of the dropsy which frequently occurs after this diet is always associated with an increase in the blood urea. They therefore suggest that the increased excretion of urine is due to the diuretic action of this urea, and in support of this they find that large doses of urea given to such patients also lead to a disappearance of the dropsy. They are of opinion that the new forms of treatment may enable such patients to survive the dangerous dropsical stage of parenchymatous nephritis and pass into the less distressing chronic interstitial stage. Here they allow that limitation of protein intake may be beneficial, but they strongly deprecate the very low diet to which these patients are often condemned. The paper as a whole teems with practical suggestions and will be of great service to the practitioner who wishes to diagnose and treat his cases of renal disease on sound and scientific lines. It marks a notable advance in our knowledge of certain difficult and distressing diseases.—*Lancet, June 19, 1920.*

The Clinical Forms and Diagnosis of Arthritic Cellulitis.

The clinical forms of cellulitis are numerous and vary according to the region in which the connective tissue is involved. The principal modalities are above all met with in the neuralgic domain. In the upper limb an intercostal pseudoneuralgia will be complained of by the patient, with pain seated in the cutaneous ramuscules which supply the skin of the thoracic walls and extend to the shoulder, arm and lumbar region. That the patient is not suffering from intercostal neuralgia will be made evident by pinching the skin over a nerve filament. This will elicit sharp pain, while compressing the skin over a rib will cause characteristic pain. Next in frequency as a clinical form of cellulitis comes sciatica, in which Valleix's points can be brought into evidence, which are obtained not only by compressing the nerve on the underlying bone, but also by pinching the skin over a corresponding area.

Beside these neuralgias the trigeminus is the seat of pain when cellulitis is present at the point of emergence of this nerve. The neuralgias of the arm, forearm, and shoulder are frequent and often mistaken for joint dsturbances; rheumatoid pain in the neck or shoulders is encountered, especially in women who are insufficiently protected by their clothing. Lumbosacral localization of cellulitis gives rise to neuralgia simulating lumbago and may lead to the erroneous diagnosis of a muscular affection. Cellulitis in the abdominal wall near the right ilac fossa has been known to simulate appendicitis, not only in the female, but in males as well. Cellulitis around the joints gives rise to periarthritides characterized by a thickening of the tissues which aid in the protection and support of the joint, as well as general soreness of the joint and muscles.

By its symptomatology, as well as by its etiology, gout, another manifestation of arthritism, shows bonds of relationship to cellulitis. The presclerous edema of the subcutaneous connective tissues may extend to the tissues of the same nature surrounding the veins and produce a periphlebitis, which accompanies and invariably follows phlebitis, but can exist without the latter. It produces a feeling of weight in the lower limbs and abdominal region with cold and warm sensations.

In abdominopelvic cellulitis neuralgias occur which are due to the onset of the process in the connective tissue, although by palpation little can be detected. When the cellulitis becomes more marked, however, a doughy feeling is imparted to the organs in the true pelvis which may lead to a diagnosis of tumor, and should the cellulitis be accompanied by fever a suppurating process may be suspected.

Among all these clinical forms the diagnosis is sometimes a matter of some difficulty at first. The diagnosis of cutaneous cellulitis is not hard to make; the symptoms may not all be present, but are very distinct when they exist. As far as cellulitic tumefactions are concerned, the continual change in their size, or even in their localization, makes the diagnosis easy. In subcutaneous cellulitis the exciting of superficial pain will prevent diagnostic confusion, for example pseudoappendicitis or sciatica. The presence of several foci of cellulitis in various parts of the body will also aid in diagnosis. Thus should there be any hesitancy as to whether a tumor or neuralgia is due to cellulitis and another focus is found, for instance in the arm or shoulder, the real condition becomes clear. —(*N. Y. Med. J.*, Sept. 11, 1920.)

The Diagnosis of Malaria by Adrenalin.

Dazzi gave injections of adrenalin 0.001 to 20 cases which had not shown any clinical evidence of malaria for some time. Twelve of these cases had no parasites in the blood and in eight cases they only appeared very rarely. The temperature was taken every four hours. There was never any rise of temperature but in all cases malarial parasites appeared in the blood in 20 minutes after the injection of the adrenalin. In 24 hours the maximum was reached and then they began to disappear. In each case the size of the enlarged spleen was temporarily reduced as though its hyperemic content had been squeezed out.—(*II Policlinic*, 11/3/19).

Time of Ovulation.

Watrin and Hamant have examined macroscopically and microscopically 135 healthy ovaries removed at operation from patients in whom menstruation was known to be regular and who were classified according to the period intervening between operation and the next expected menstruation. The authors conclude that ovulation takes place at a fixed time twelve or fourteen days before the beginning of menstruation. At the time when the menstrual flow appears the corpus luteum has attained its maximum development, at the end of menstruation its long diameter is 16 mm., five days after the end of menstruation less than 7 mm. Watrin and Hamant believe with Fraenkel, Ancel and Bowin, and Villemin, that the Corpus luteum by means of its internal secretion, determins menstruation.—(*Rev. Med. de l'Est*, Mai, 1920).